

# Network



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Railways of Australia

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NZrail environment award (page 20)  
Westrail looks at 2-man crews (page 23)  
Brushmen of the Bush on the I.P. (40)  
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# STEEL SLEEPERS

## How brilliant new insulator pads and fasteners now give steel clear-cut advantages over timber and concrete

### New developments triumph in trials at Mt. Newman.

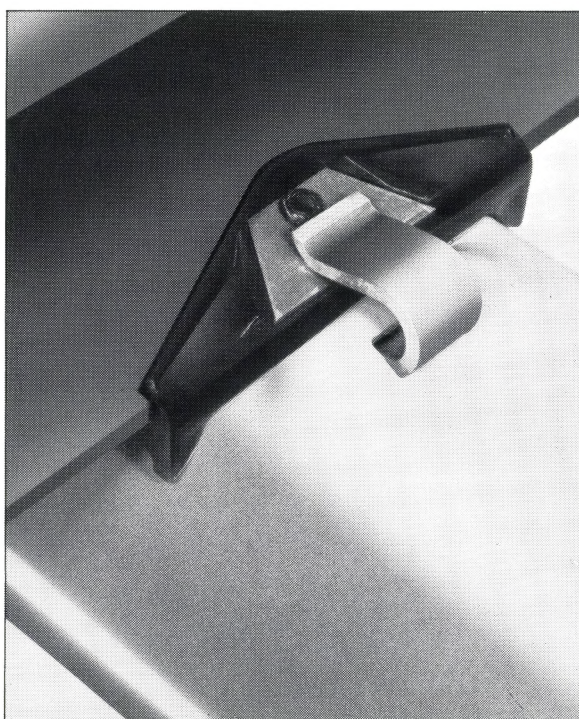
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# Network

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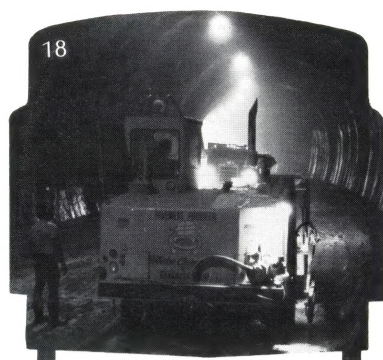
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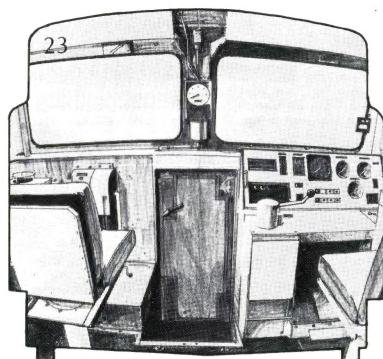
*An interesting view of 'Overland' cars at rest in the 'car barns' in the yards at Adelaide Railway Station.*



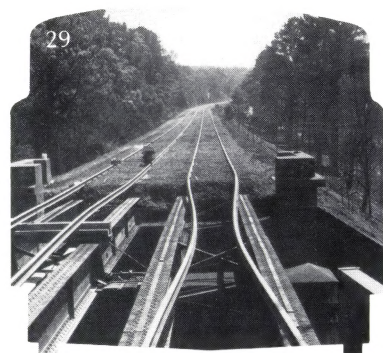
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*Our only requirement of writers and personalities who contribute to Network is that they be informative or entertaining and that their subject has relevance to the wide interests of railwaymen today. Naturally, there will be occasions when their viewpoints or opinions run contrary to those of the editor or to Railways of Australia. We must accept that these differences are among the elements essential to the presentation of a lively and interesting magazine.*





A section of the Hamersley Iron Railway between Dampier and Tom Price Mine, Western Australia

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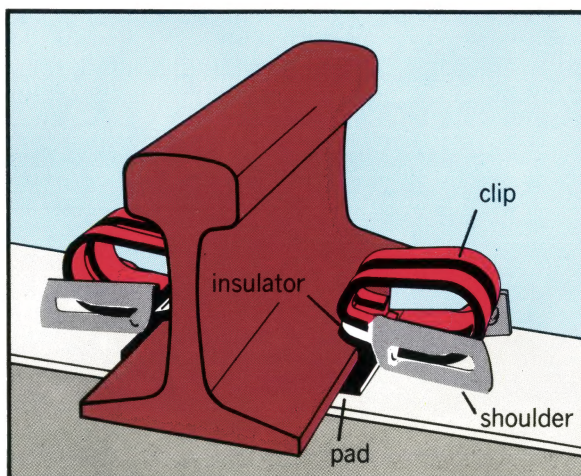
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## Fourth National Transport Symposium

Held in Hobart between 6-8 April and sponsored by the Chartered Institute of Transport, the theme of the conference was "Transport — Regulation and Deregulation".

The theme was taken up by a number of keynote speakers, representing all facets of the transport industry both surface and air. Papers on legal issues, economics and political aspects made a vital contribution to the overall analysis. Papers delivered were finely tuned to the subject, thought provoking and particularly informative.

Let me pass on to you my impressions. The very theme chosen by the Chartered Institute of Transport revealed the need for information and understanding in the vast transport industry, and was related closely to the ideals and objectives of the Institute itself. The Symposium successfully identified that transport problems rarely involved simple issues, or affect one section of the community exclusively. The same comment can be made in relation to geographical boundaries. The dimensions of areas of concern in the transport industry are considerable and involve financial, economical, social, industrial, political and environmental issues — and these are but the obvious elements.

dealing with the key question of regulation and deregulation from many angles, delegates from all participating industries and sectors were particularly interested in the Interstate Commission. The conference was informed that a much broader view must be taken of the transport industry; all policy

decisions should consider implications of an economic, social and environmental nature. The matters of allocation of resources and defence are also vitally important.

Parochialism and insularity of sections of the transport world would have no place in the future of Australia's vital transport industry.

The Federal Government sees the re-establishment of the Interstate Commission as an essential pre-requisite to the development of truly national transport policies — but not as a regulatory body. Federal Government policy is to develop an effective and viable national transport system. The objects broadly are:

- to encourage national development with a balanced approach which considers the requirements of different industries, regions, transport systems and social groups;
- to promote a national transport system that is equitable, safe, reliable and convenient, and one which offers Australians the mobility required for employment, business, recreation and other requirements at a reasonable cost, and with reasonable alternatives;
- and that these aims should be pursued in the most efficient and socially effective way.

The symposium was informed that Government policy required each element in the transport system to perform those tasks for which it is best suited — not merely in commercial terms, but technically, socially and economically.


A major principle involved was that users of commercial services should expect to pay for the full costs of providing those services.

Where there is a requirement for services that cannot be provided on a commercial basis, Government policy provides that the losses will be fully identified and separately funded.

There is no doubt the Interstate Commission will become a major vehicle for getting all the facts into the open when it examines and comments on interstate transport problems. It will play a significant role in keeping each transport system 'honest' and will develop a fund of expertise that will be invaluable in the development of national transport policies.

The future of rail transport must be bright when we witness Government initiatives of this calibre. All concerned people in the Australian transport world and associated organisations and industries will surely welcome the return of the Interstate Commission.

In summary, the Fourth National Transport Symposium of the Chartered Institute of Transport provided another contribution to the developments concerning regulation and deregulation. It provided an insight into both local and overseas experiences, but vitally important was the fact that the Symposium defined a clear path for the future.



**N. J. GAZZARD**  
EXECUTIVE DIRECTOR



*N. J. Gazzard*



It is appropriate that a national Rail Policy Seminar should be held so early in the life of a Labor Government. This Government is committed to achieve progress through consultation and dialogue with all those involved in the decision making process — those who pay, those who provide the services and those who benefit from and are affected by the services.

Such a process clearly involves all levels of Government, Unions, Management and, in the case of transport, that most important group, the customer.

Each has a legitimate interest in the policy-making process and we believe that better decisions will be made from a process which gives due consideration to the views of all of these groups.

Of course, for there to be effective consultation the relevant facts must be available to interested parties. We are committed to open Government and to improving our understanding of the problems we face so as to help that process.

We are also concerned that policies are formulated after taking into account all aspects of a particular issue. It is widely recognised that perfect markets do not exist in our Australian society.

It is essential therefore that Governments are aware of the full costs and benefits when considering particular policy proposals.

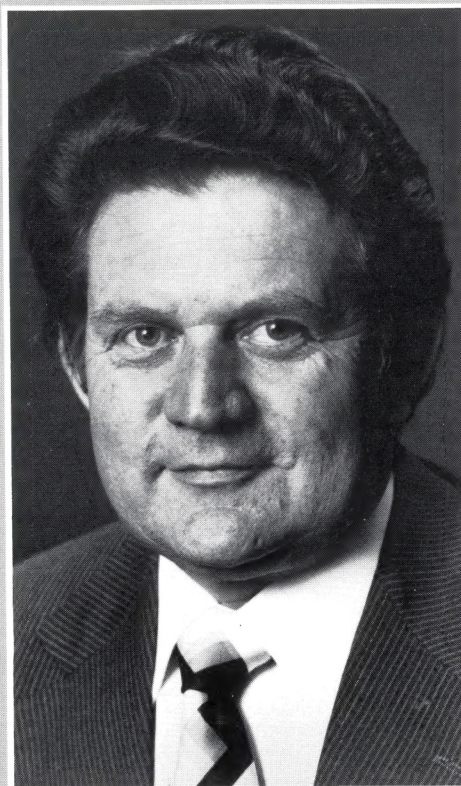
These costs and benefits go beyond simple money terms to include matters such as environmental impact, social impact, Defence considerations and resource utilisation. In the depressed economic circumstances which this Government has inherited it is clear that job creation will be a significant element in our deliberations.

In order that policy can be developed in the consultative manner I have outlined, clearly identified national transport objectives and national

The first national conference on rail policy ever held in Australia was convened in Canberra on 28th and 29th March 1983. The Australian Railways Research and Development Organisation was the organising body for the meeting, which was attended by delegates from the rail industry, Federal and State Government instrumentalities and key advisors to both government and industry.

The Canberra seminar was the culmination of activities undertaken by Railway Systems, ARRDO and other organisations closely involved in the Australian rail industry. The three major objectives of the seminar were (a) to disseminate the findings of ARRDO's 1981 Report on Rail to those most influential in determining rail's future, (b) to stimulate debate about the recommendations made in the "1981 Report on Rail" and (c) to develop proposals and policies for rail's direction in the '80s.

The Hon. Peter Morris MHR, Minister for Transport delivered the opening address, a transcript of which appears below.



*Mr Peter Morris, Federal Minister of Transport*

planning processes are essential to provide a framework within which we can sensibly consider particular issues.

We expect that through our consultative process the merit of the resultant decisions will be recognised

and that as a result much of our policy will receive widespread support including a bi-partisan endorsement by the Parliament.

You may be aware of the Inquiry by the House of Representatives Standing Committee on Expenditure into the operation of the Australian National Railway. That Inquiry had bi-partisan support and the report was a very useful attempt to get the facts out in the open. Sensible discussion can only take place when the facts are known.

Through this process our aim is to promote a national transport system that:

- Encourages national development, **balanced** in terms of industrial, regional, means of transport, private/public and people/goods criteria.
- Is equitable, safe, reliable and convenient: offering a choice of alternatives at differing costs, enabling the disadvantaged as well as other Australians adequate mobility for their employment, business, recreational and other needs.
- Pursues these aims in the most efficient and socially effective way.

**SEMINAR REPORT**

# ARRDO CONVENES FIRST



We are concerned to ensure that each element in the transport system performs those tasks for which it is best suited technically, economically and socially.

In principle, users of commercial services should expect to pay the full costs of providing that service.

Where there is a requirement for the provision of services which are not or cannot be provided on a commercial basis then Government policy is that the costs of such services should be fully identified and separately funded. Only by knowing what services actually cost to provide can the community be in a position to judge whether continuation of such services is warranted.

Against that background I would now like to examine some of the specific issues relating to railways.

Let me begin by stating unequivocally that this Government sees an essential role for Australian Railways in the 1980's and beyond. We also believe the Federal Government has a legitimate national interest in railways.

It is a sad reflection on our history that in Australia there are five separate rail systems using three different gauges. Our Government is determined to see the 'Rail Situation' improve, if I may put it that way.

In this regard I must say that a five year \$66 million loan program falls far short of our idea of a positive effort to redress the nation's railway problems.

We will be looking for action to be taken on a wide front and the concept of an 'Action Plan' involving a balanced package of investment and non-investment measures seems to make a lot of sense.

I think it is abundantly clear that rail's problems will not be solved by simply throwing money at them. There is a need for investment but it must be channeled to the right areas and it must be cost effective.

There is also a need to address a wide range of other issues such as marketing, productivity, corporate planning, organisation and financial management.

Any program involving the provision of significant capital funds would appear to require complementary commitments from rail owners, rail management and relevant Unions, to measures which will ensure that the full benefits of investment programs are achieved.

I am sure that you will all agree that rail's performance can, and must, be improved. The way ahead has to lie in the adoption of more commercial and more flexible management strategies.

Areas such as organisation, marketing, pricing and personnel policies are all vital to the future well-being of railways.

Railways must recognise that, while certain traffics may well be lost, there are sound opportunities for business growth. The most effective way to reduce the need for large-scale labor shedding is to increase the size of the business.

An efficient railway is in everyone's best interests. Sensible investment, improved management and a better industrial situation will improve reliability and transit time and vastly increase the opportunity for real growth in rail traffic.

Let us get the facts out in the open and develop a consensus as to the course that should be pursued.

The new Government is committed to:

- completion of the national standard gauge system
- upgrading of port and rail facilities for export traffic
- the upgrading of mainline rail links
- the electrification of export rail links

- the purchase of Australian-made rolling stock.

However, we realise only too well that it is not possible to do all these things at once. The budgetary situation which we have inherited will require very careful assessment of priorities and a phased approach to implementing our policies.

A particular concern of a responsible national Government should be the efficient operation of a rail freight network that serves national needs. We will be discussing the matter with the States to determine what steps are necessary to ensure that this network operates efficiently.

This issue could very well be an area where the deliberations of this Seminar could generate useful advice for Governments.

You probably all know of the Transport Industries Advisory Council, or TIAC as it is commonly known. TIAC is a broadly representative body with a Charter to advise me on transport matters. I was interested to find that TIAC was strongly of the view that it is essential that our interstate freight system operates as a cohesive, integrated and efficient business.

I would now like to refer to some of the other means by which we will be progressing our transport objectives.

The Interstate Commission will become a major vehicle for getting the facts out in the open as it examines and comments on problem areas. It will have a significant role in keeping each transport system 'honest' and will develop a fund of expertise that will be invaluable to the rational development of consistent national transport policies.

I am currently examining what action is required to have the Interstate Commission become operational and will then be looking at which areas should be the subject of its initial investigations.

*continued on page 9*

# NATIONAL POLICY CONFERENCE



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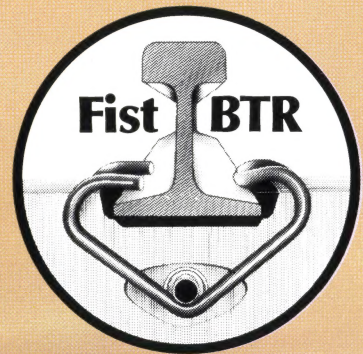
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*Continued from page 7*

At first look it would seem that an appropriate task may be the National Road Freight Industry Inquiry. The Road Freight Industry is experiencing one of the most difficult periods in its history with over supply of capacity and the financial viability of many operators under grave threat.

However, the issues which will need to be addressed are so wide-ranging and of such urgency that I believe immediate action to get this Inquiry up and running is required. The Interstate Commission may therefore not be the appropriate body to undertake this Inquiry.

The Road Freight Industry has a long history of partial inquiries which address only some of the issues. What is desperately overdue is a wide-ranging Inquiry to analyse all facets of the Industry on a national basis.

We need a comprehensive overview of the Industry to help develop an Australia-wide surface transport strategy.

The National Road Freight Industry Inquiry will not only address industry specific matters, it will also investigate the complex issues of land transport pricing including road/rail competition.

We already have the support of some of the States for this Inquiry and I am sure that we will be able to achieve a truly national consensus on this important issue.

I must say I see a number of similarities between this Inquiry and the 1981 ARRDO Report on Rail which provided the first-ever comprehensive overview of Australia's Government rail systems — a remarkable achievement in its own right.

As I indicated earlier this Seminar is entirely consistent with our policy approach. Together you represent a wide cross-section of the transport community here to focus attention on major transport issues and provide advice as to the way ahead.

It is a difficult task but I am confident that with your expertise and a modest helping of goodwill and common sense, very positive progress will result from this Seminar.

I should also comment on our policies regarding the operations of the Australian National Railway Commission. We are concerned to see Australian National operate effectively in the transport market place and will seek Parliament's approval to legislate changes designed to facilitate this.

In this regard, I mention that the legislation which was introduced in the last Parliament had bi-partisan support. There may, however, be need for some minor changes to that legislation to reflect other of our transport initiatives.

We will be concerned to see that Australian National continues to develop and improve its marketing program and its corporate planning processes.

We will be taking steps to accelerate the rehabilitation of the Tasmanian Rail System. The previous Government seemed intent on dragging this out over an interminable time.

Where Australian National provides services on a commercial basis we will expect commercial rates to be charged.

Where we require Australian National to provide services that cannot operate commercially we will require the costs of providing that service to be properly identified and that it be separately funded.

I fully agree with the provision of the new legislation requiring that any direction given to Australian National be made public. There is some value in keeping Governments honest too.

It should be no secret that on 5 March we inherited a major rail deficit problem. As a result of the mismanagement of the economy by our predecessors and the effect of the drought, traffic has decreased markedly this year and losses will be correspondingly increased.

As our economic and transport policies take effect, I am sure Australian National's financial position will improve, although I suppose it would be going too far to credit the recent rains as being the result of electing a Labor Government.

As I said earlier, this Seminar is entirely

consistent with our approach to policy development. ARRDO is to be congratulated on its initiative in organising the Seminar and the workshops which preceded it.

It is now up to each of you to make a significant contribution to the deliberations of the Seminar.

1983 is an important year for railways. I can assure you that I will be carefully considering your views when developing the Labor Government attitude to railway matters. I am sure State Ministers will share my concern.

It will be particularly interesting to see if the "Way Ahead" suggested by this Seminar follows the thrust of the recommendations of the ARRDO 1981 Report on Rail. That Report is a most valuable document, not in the least for the way in which it brings all the threads together to provide a national summation of issues.

The need for such documents is an integral part of Labor's approach to policy development, and if the ARRDO Report had not already been available I would have required that such a Report be prepared.

Let us be under no illusions. The problems facing railways are extremely complex and beset by Institutional rigidities.

Improving the rail situation will require concerted action from all those involved — Governments, Rail Management and Unions.

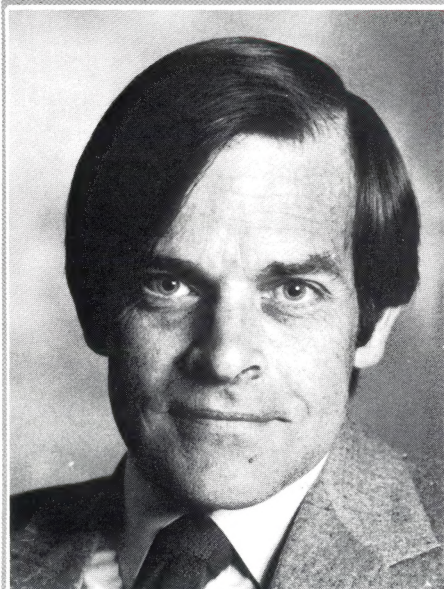
Above all, it will require a high level of communication, consultation and co-operation.

I believe we can rise to this challenge and ensure that our railways fulfil their proper role in Australia's transport system. I wish you well in the next step on that path.



*Address by the Hon. Peter Morris M.H.R.  
Minister for Transport*





*Dr. Paul R. Grimwood*

**By ARRDO Executive Director Dr. Paul Grimwood**

# Opportunities must be

**Introduction.** The purpose of this presentation is to provide you with an overall perspective on rail that is a starting point for you to determine what future policies should be adopted for Australia's government-owned rail systems.

You will note that the key objective of the seminar is to propose policies for rail in the eighties; it is not my intention to use this session to make the case that ARRDO is "right".

At the end of the day, when policies have been formulated, it may turn out that they are in accordance with ARRDO's recommendations, and that would be welcome. ARRDO believes its recommendations are appropriate, but your agreement with them is not the first order of business for the day; it is for you to identify the best policies for rail in Australia.

## Government railways in

**context.** All the delegates at this seminar have a direct association with railways in one way or another. Very few present would have, from their day to day activities, an overview of government railways in Australia. As part of ARRDO's role, it has had to develop that overview; it may be helpful to share it with you. Two aspects that are especially relevant, and which bring with them some surprises, are their overall size, and some of the influences that shaped them.

**The size of railways.** Australia's railways are big business. As business organisations, they are among the largest enterprises in the nation.

Collectively, the government railways employ over 100,000 people.

Their annual revenues amount to around \$1,200 million.

These may be compared with two other national enterprises. Telecom has annual revenues of \$2,600 million and employs 88,000 people. BHP revenues are \$4,700 million; it employs 63,000 people.

It is worth noting that the relative size of railways increases when one acknowledges that their costs generally exceed their revenues; not the situation generally with BHP and Telecom.

A characteristic of railways is that their activities and the people they employ are geographically dispersed. Perhaps only Telecom and Australia Post are dispersed to a similar degree. As an example, of the 26,000 people employed by Queensland railways, almost 20,000 live outside Brisbane.

The task performed by the government railways is very large indeed. In a year they transport about 36,000 million tonne km or between 30% and 40% of the land transport task. Considering that the short haul task in and around towns and cities is largely performed on road, these figures emphasise how much of the long distance haul is done by rail.

Let me put the haulage capacity of rail in perspective. Each year the Queensland railways deliver 15 million tonnes of coal for shipment through Hay Point.

This is accomplished by the operation of six trains per day, each hauling 7,600 tonnes net. If the task were to be carried out by road, using road trucks with a capacity of 25 tonnes then 1,800 trips per day would be required.

Trucks would be rolling up to Hay Point at in excess of one every minute — rather than one train every four hours.

Similarly, rail performs a major task in moving passengers, particularly in our largest cities. In Sydney, more than 700,000 commuter journeys are made each working day in the metropolitan area.

Almost 60% of those who work in Sydney's central business district use trains for their commuting journeys. If they were to travel by car, at the typical rate of 1.5 persons per vehicle, then 90,000 cars would be required. For parking they would need more than two levels of car park over the entire

**SEMINAR REPORT**



# grasped to meet challenges ahead

off-street area of the central business district.

The reason for indicating the scale of railways, and their dispersed nature, is to emphasise that the effects of changes to them are not confined to the rail sector but pervade the community.

## Some early influences on railways.

It is realistic to acknowledge that government rail systems in Australia have never had just one role: to provide efficient transport services.

They have been expected to fulfil a number of roles, contributing in the process to the attainment of a variety of government objectives.

In identifying rail policies, it is vital to recognise that railways do play a part in Australia's political and social framework, as well as having an economic role. Some insight into the reasons for these roles may be helpful in establishing the appropriate rail policies.

Railways, and rail technology, are old. In Australia they have been operating for over a century. When sailing ships were routine, and long before the days of mechanised road transport, railways were being used to open up a very young Australia.

And they were being used for this forty and more years before Federation. Railways were a prime instrument for development of each of the isolated settlements we have come to know as States.

The circumstances of those times brought to railways some of the characteristics which are not inherent in the technology, but which are closely associated with them through long tradition.

Railways emerged as the reliable link between small developing communities, and the centre of population at the railhead and port.

The remoteness of the small centres, up to 1,000 miles from ports in what is now Queensland, led to the rail links being viewed as "lifelines" by the communities they served, and as an essential means of opening up new territory by the governments of the day.

Though the reasons for the reliance on rail have all but gone, the early influences still affect the perceptions country people have of their rail systems.

They also affect the shape of the rail network, their operating practices, and, as a result perhaps, the roles ascribed to railways by their governments.

Examples of traditional influences are not hard to find. We are all aware of the effects of different rail gauges, and how long it has taken to redress that difference.

Are as many people aware of the reason for the rail network being laid out the way it is? Essentially it was to collect wheat and other grains, and the design rule was to locate a rail head such that all farmers could get to one, and back, in a day — with a horse and cart.

And so we see, in today's terms, rail lines unnecessarily close together in much of the wheat growing areas of Australia.

There was a time when rail depots were placed about a day's journey apart, by slow steam train. Work rules evolved to safeguard crews; they were not to "work through" depots, but change at a depot, at the end of a day.

The steam engine has gone — but not yet the work rules based on them.

Vivid examples of the continuing perception of rail as a "lifeline" come from any number of branch line closures. The closures are strongly resisted, for a variety of reasons, even if alternative (road) services are available.

## Some contemporary

**influences.** The period of rail being the monopolistic provider of transport services, and sundry others as well, has been replaced by one in which there is viable competition: road hauliers and shipping have been capable of providing alternatives to rail for many years.

Slurry pipelines and conveyors are emerging competition.

But the competition with railways was resisted by their owners for many years; traffics were regulated to rail not only to protect the investment in rail, but to ensure the continuing ability of governments to promote the attainment of other, socially worthwhile objectives.

One objective, in particular, was to promote development and decentralisation, still sought at a time when a major change started to occur to the pattern of population in Australia. The drift to the cities began. Whereas in 1921 57% of Australia's population lived outside major urban centres, by 1971 the proportion had declined to 35%.

In absolute terms, the population outside major urban centres changed from 3.1 million to 4.5 million, while Australia's total population increased from 5.4 million to 12.7 million.

In their efforts to restrain the move to the cities governments often used railways as one of their instruments. Concessional freight rates were offered to industries establishing themselves in country areas.

Railways thus found themselves at the centre of three pressures — a reduction in their transport role from the advent of road services; a reduction in their market from the move of population to the cities; and a reduction in some freight rates, imposed in a vain attempt to stem that move.

While the traditional transport role of railways was under severe pressure, major new markets were developing.



The period since the second world war has seen the emergence of a new role for railways, as haulers of bulk commodities. While the haulage of major agricultural produce has remained as a task for rail, minerals have assumed increasing importance, and have become in the form of coal, the dominant traffic for several systems.

### The balance disturbed.

Traditionally, there has been a balance struck between railways as transporters, and railways to further other objectives of government.

By and large, the financial performance of railways was such that the revenue from transport services cross subsidised the cost of meeting the socially desirable, but not necessarily profitable, goals of government.

Furthermore, this was done without diverting funds from other desirable ends of government, because the railways were breaking even, or close to it.

The balance between the social and commercial roles come under more and more pressure as traditional rail markets shrank, and the emphasis on performing social roles increased.

The uneasy balance was broken during the seventies, when fundamental changes took place in the financial and employment worlds. Growing inflation and unemployment emerged as dominant issues in the Australian economy.

Associated with these were increasing rail deficits.

From a near break-even situation at the end of the sixties, rail deficits, in total reached  $\frac{3}{4}$  billion dollars (80/81 dollars).

This situation is one deserving close scrutiny for its own sake. It raises questions on rail efficiency and

productivity, certainly. Equally certainly it poses questions regarding rail's role, especially the social roles it performs.

No longer can rail be viewed in isolation. The reason is that one of the fundamental implications of rising deficits is that they can be funded only by foregoing other socially desirable objectives.

No longer are railways a self financing way of achieving social goals.

Associated with the changes inherent in these roles are the uncertainties felt by rail employees. In shrinking markets and high unemployment, there is expression of concern on the part of employees.

Industrial unrest, and industrial relations, have become matters of concern to all associated with railways.

It is in this context that a fundamental reappraisal of railways in Australia has been called for by railways themselves, and by governments acting collectively in ATAC.

The purpose of this seminar is for you to respond to the call, by identifying the policies for railways in Australia, and how they should be implemented.

As you are aware, ARRDO has prepared its response to ATAC, and is pleased to be able to indicate how that response was made, its findings, and its recommendations.

**ARRDO's approach.** The basis of ARRDO's approach, in undertaking the work which led to the 1981 report, was a conviction that railways would be required to continue to perform both social roles and commercial roles — but that they would need to do it in a way that would not prejudice other objectives of government. In other words they should perform those roles, but with significantly reduced deficit levels.

Essentially, our approach was to focus on making the roles of railways explicit. In particular, there has been an emphasis on railways operating as efficient business undertakings.

To emphasise this, the terms "commercial" and "non-commercial" have been used in referring to the two roles. In particular, the activities undertaken at the behest of governments and aimed at achieving socially worthwhile objectives, have been termed community service obligations.

Our aim in developing recommendations was to establish a new context for rail systems, in which the roles would not change, but the means of fulfilling them would.

We believe that making the roles of railways explicit is the first step towards resolving the tensions between them. It is a legitimate role for government to decide on the social role for railways, and we consider that what is necessary is a mechanism to enable that role to be fulfilled efficiently.

We believe that it is in the best interests of rail systems and of governments to have the relationships between them made more explicit. One mechanism to achieve this is by development of contracts for the performance of the social role. Unless the roles of rail are made explicit, there will remain continuing problems in the true measurement of performance, and thus difficulty in developing the concept of accountability for performance.

There is another area of government involvement with railways which is a contributor to rail's financial situation. Available evidence on cost recovery from rail and road users indicates that there is a cross subsidy by governments, through transport, to other sectors.

We believe that, on grounds of economic efficiency, there is merit in raising the overall level of cost recovery in both modes, and that joint road and rail pursuit of greater equity between the modes is most desirable.

Those associated with ARRDO recognised from the outset that the problems of railways are so complex that a group such as ARRDO, outside rail systems and newly formed, could not be prescriptive in suggesting detailed policies for the future.

Our aim has been to set up policies within which capable rail managers could be free to pursue agreed upon targets.

Very definitely, we did not want to intrude on management prerogatives. We thought it necessary to recognise the matching of authority and accountability — and we did not want to prescribe actions which would reduce either.

This approach was confirmed by our observation of the outcome of some other studies. As an example, the Bland Report on transport in Victoria, despite

**SEMINAR REPORT**



widespread acknowledgement of its worth, saw little adoption of its recommendations. We believe that one problem lay in attempting to prescribe actions to be pursued rather than defining goals, and bounds within which management could operate.

**Rail's commercial role.** A basic question to address in considering rail's future is to ask, specifically, what commercial role it would play.

ARRDO's approach to this was to estimate what traffic task might be undertaken by rail in future, and how this would be affected by policies which were being considered. Specific estimates have been detailed in the report, with the note that one of the characteristics sought in the projections was that they were indicative rather than precise. It was important that **whatever** policies were adopted were appropriate to the particular values of the flows of passengers and goods which, in fact, emerged.

The ARRDO findings were that:

- there **is** a commercial role for rail to play in future; commodities best suited to rail (eg. coal, wheat and other grains, ores and minerals) are projected to increase significantly; a task **close to doubling** in the next decade is the prospect.
- this task is relatively insensitive to the policies adopted (though railway financial results could vary markedly depending on the policies adopted).
- some traditional markets, general merchandise, for example, are, however, markedly policy sensitive.

An early and fundamental conclusion is that there **is** a future for rail, a growing task to be performed. The challenge is to perform it efficiently, and to have policies which reflect this efficiency in the profit and loss statement for railways.

**The determinants of rail financial performance.** I have already indicated that ARRDO advocates separation of the commercial and non-commercial roles, and the adoption of contracts for their performance. The implication is a separate and explicit entry in the profit and loss statements.

It remains to deal with the commercial aspects of rail systems. ARRDO's approach to this was a three stop one:

- identify the factors influencing rail financial performance, by examining

the performance of the past decade

- incorporate these factors into a model to project performance under specified conditions in future
- identify which of the factors could be controlled, or influenced, and develop policies which would achieve the appropriate degree of control.

We found that there are four major determinants of rail financial performance — task, productivity/real wages, real unit revenues, and investment.

An indication of the validity of these as the major determinants may be shown by the impact of the decline in real unit revenues and the increase in real wages over the period from 1970. The deterioration in rail's financial performance can be ascribed mainly to the deterioration of these two factors.

### Labour productivity and real wages.

Wages and salary costs are the major cost item for all systems. Labour and on-costs together account for about 65 % of total costs. This figure is considerably higher than that applying in rail systems in other countries. In the early 1970s real wage increases exerted considerable cost pressure in rail systems, and thus became the first of the two key factors which, as already mentioned, contributed to the worsening of deficits in that period.

In the latter years of the decade real earnings of rail employees declined marginally, enabling the real deficit levels to be more readily controlled.

**Real unit revenues.** The second key factor in the increase in deficits during the decade of the seventies was the one-third fall in real unit revenues over the period. The fall in real unit revenues was partly due to the large increase in bulk traffics in Queensland and Westrail, with their associated below average unit rates. Towards the end of the 1970s, the downwards trend in real unit revenues seemed to have ended.

Declining real unit revenues during the 1970s can be attributed to three main factors.

- rate and fare increases were limited as a policy measure to counter inflation, particularly in the early 1970s
- in some States, railways reduced real freight rates to hold traffic which may have otherwise been lost due to removal or reduction of government

regulation of road transport.

- railways reduced real freight rates to minimise loss of traffic to road transport, whose competitiveness was increased by improved technology, investment allowance and abolition of road maintenance tax.

It can be concluded that, whatever other consequences they may have had, the pricing practices of the seventies clearly did not contribute to control of the deficits.

### The "Base Case" and alternatives.

Having examined the situation of the seventies, ARRDO projected this forward into the future. We wanted to find out what the situation would be if the policies of the seventies were continued.

This recognised that railways were making substantial improvements during that time. There were significant gains in labour productivity, while substantial investment funds were being provided.

The result of our analysis was that a continuation of policies from the 1970s — the "base case" — would provide only a marginal reduction in the deficit. This meant that in spite of a very substantial increase in the traffic task, and in spite of projected further improvements in productivity and the provision of some further funds for investment, little financial improvement would be achieved.

In brief terms, all those associated with railways would be working harder than ever, but the result of their efforts would be a loss situation little different from that of today.

But our analysis also showed that changed policies would hold out the hope of a better result for systems overall, including a better financial result. The changes would not be easy. We have seen in recent days in New South Wales the great difficulty in changing long established practices. But the important finding was that relatively modest changes in real fares and freight rates, coupled with modest increases in productivity targets, would produce very real improvements. The report suggests that the following measures would reduce the total deficit at the end of the decade to \$190 million — a reduction of 75 %.

- 2 % p.a. average real increase in fares
- 1½ % p.a. average real increase in general freight rates
- 2 % p.a. average real increase in bulk mineral rates



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## keynote

- 2% p.a. increase in growth rate of labour productivity associated with passenger transport
- 3.5% p.a. increase in the growth rate of labour productivity associated with the transport of general merchandise.

The remaining deficit of \$190 million would be wholly associated with passenger transport.

**Investment.** In the 1981 report we considered three kinds of investment:

- first, we looked at investment to maintain the status quo — the status quo being either the existing service level or the existing trend in service level, either improving or declining — at the existing level of traffic task
- second, we looked at investment to achieve productivity improvements, still at the existing traffic task
- third, we looked at investment to cater for growth in the traffic task.

We found that the level of investment in rail which was financially warranted was significantly higher than current levels.

As a result of this finding, ATAC pressed for further work to be carried out on the increased level of investment which would be beneficial for rail — and that is a task to which almost the whole of ARRDO's resources are being devoted in the current year.

I believe it is fair to say that, had a decision been made to make the sorts of investment identified in the 1981 report, railways and the community would benefit significantly. As a result of the more detailed work now being carried out, it will be possible to identify with greater confidence the total level of justifiable investment and the benefits available from a wide range of individual investment projects.

### Recommendations of the

**1981 report.** I started this presentation by providing an overview of rail, in which I emphasised the

obligation which has been placed on rail systems to perform a social role as well as a commercial role. In framing our recommendations we have paid particular regard to this dichotomy of roles.

We have recognised that it is for government and not rail systems to decide what, if any, social roles rail systems should play.

While some of our recommendations focus on ways in which rail systems can be more efficient as commercial transporters, we have not attempted to be prescriptive to managers on ways in which these efficiencies are to be achieved.

The recommendations made in the 1981 report fall into three categories — those for action by rail systems; those for action by governments; and those for action by both.

The first three recommendations are intended specifically for rail systems. Recommendation one is that systems, other than Queensland Railways, reduce staff numbers at rates greater than were achieved during the 1970s. Queensland is excepted because the very strong traffic growth, particularly in coal, anticipated for this system will require growth in employment, even with the achievement of target productivity improvements.

The second recommendation is that railway systems adopt economic pricing principles as a basis for setting rates and fares, where this is not already done.

Recommendation three is that rail systems exercise every effort to restrain the rate of increase of real wages — but in a way that links increases in real wages with achieved productivity increases.

There are four recommendations in the report which concern the relationship between rail systems and governments and which require action by both parties.

Recommendation four is that governments ensure rail systems have access to normal commercial freedoms where operating in financially viable business areas.

Recommendation five is that government and rail systems enter into periodic "contracts" for the provision of non-profitable services which governments require systems to perform for social reasons.

Recommendation six states that where governments wish employment in non-urban passenger services to be sustained above levels needed for efficient operation, the systems should receive compensation.

Recommendation seven is that, where they have not already done so, governments should establish urban rail services on a separate financial basis from other rail services.

The final two recommendations are essentially for action by governments. Recommendation eight is that governments give high priority to resolving the question of pricing and raising the level of cost recovery in the land transport sector.

Finally, the ninth recommendation in the report calls for increased financial assistance from the Commonwealth Government for the national rail freight network.

The recommendations are a package, but I emphasise again that they are not intended to be a prescription for each system or government.

**Conclusion.** What are the implications if rail systems and governments do not adopt approaches along the lines of these recommendations?

If such changes are not made, rail will continue to be a financial drain on governments; it will continue to operate in markets for which it is unsuited; it will remain excessively labour intensive while other modes continue to improve their labour productivity, with attendant cost savings; its service quality will decline, as rail struggles to handle an increased task with inadequate and over-age equipment; its relationships with governments will remain confused, and the public perception will be of organisations which are inefficient and inherently loss making.

Not only will the railways suffer, but the nation as a whole will be the poorer, if resource allocation in transport is not improved.

I do not underestimate the difficulty of achieving changes such as those proposed. The problems of implementation will be very great. But the benefits have been demonstrated to be substantial, and the penalties for inaction are real.

It is up to rail systems and their governments to grasp the opportunities available to them and to meet the challenges inherent in those opportunities.

**SEMINAR REPORT**





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# NZ claims for damaged freight drop 23 %

Claims for damaged or missing freight, an expense integral with all transport operations, have been dramatically reduced by New Zealand Railways.

A reduction of 23 % in the number of claims has been achieved by Railways through a determined drive to improve freight-handling and staff awareness of customer needs.

**"Operation Freightcare"**. Railways introduced new freight reception procedures and improved freight handling in depots and major yards in 1981.

Soon after the new procedures started, claims for freight damage or loss began to decrease. Railways decided to reinforce the reduction, and developed a promotion to publicise the need for increased care and safety among operating staff. "Operation Freightcare" commenced in May 1982.

## The "heart" of freight handling.

"Freightcare" aims at the "heart" of the freight-handling area . . . the loading and unloading of wagons, handling of goods and shunting of wagons. Railways selected attractive Auckland model Miss Trudi Van Zyl as the

personality to put the theme of the promotion across. As "Miss Freightcare", Trudi appears on a striking series of six full-colour posters, each featuring a freight-handling or operating situation.



## New travel role for Sue

*As part of an Australian National marketing drive to establish closer liaison with travel agents, Sue Cardwell, in her role as AN's passenger sales representative, will visit all agents in the State on a regular basis.*

*Sue is no stranger to the rail travel scene.*

*Until recently she was a stewardess on the "Overland" that runs between Adelaide and Melbourne.*

*She has worked for 10 years with AN and travelled 1,500,000 rail kilometres.*

# 'Westliner' offers fast freight alternative

Australian National has commenced a new once-a-week express freight service between Adelaide and Perth that is the fastest service of its kind over such a long haul, and is a serious challenge to road freight services.

Named the "Westliner" the train travels non-stop at speeds up to 100 km/h between the two capitals and averages 65 km/h for the whole journey.

Using two crews working in relay it will cover the 2,572 km distance in 39 hours and 30 minutes.

The announcement follows AN's introduction in March of an express freight service between Adelaide and Sydney that halved freight delivery times from four to less than two days for container wagon and van traffic between both cities.

Like that service, Westliner is another beneficial result of the new standard gauge linking Adelaide with the interstate rail network.

Announcing the new service, general manager of Australian National, Dr Don Williams, said in delivery time and cost the Westliner would be highly competitive with existing road freight express services.

The Westliner will depart AN's Adelaide

Terminal at Dry Creek at 12 noon on Saturdays and arrive in Perth at 3.30 am on Mondays thus enabling onward freight deliveries in Perth by 6.00 am.

The Westliner Express carries 1,200 tonnes gross of freight including unaccompanied pantechs, container freight and any other loadings that meet requirements for high speed transit.

If successful the fast new schedule will also set the scene for possible significantly improved passenger train schedules on the Perth-Adelaide and Perth-Sydney routes, about which there has been much discussion in the past.

AN reports that the first run on April 9 was a wholehearted success, with Westliner arriving 10 minutes early in Perth with its load of containers and road trucks.

The whole train was unloaded and ready for delivery before 6 am on Monday.

AN general manager Dr Don Williams said AN had received very favourable comment from clients.

"The favourable reaction to the Westliner is most encouraging. We will

continue to expand such services where there is sufficient demand", said Dr Williams.

Commenting on the rapid introduction of new and faster rail freight services, Dr Don Williams says: "With the exception of the Loxton Regional Freight Centre, these innovation are benefits which result from the new standard gauge rail link.

"Australian National is very keenly aware of the need to update rail services and increase competitiveness.

"Wherever there is sufficient demand for us to introduce or expand services we will do so."

Meanwhile AN is considering the further utilisation of its passenger services to carry freight.

"At present the Trans-Australian and The Ghan passenger services carry freight and we are investigating the possibilities of freight also being carried on the nightly Overland train between Adelaide and Melbourne.

"Such utilisation not only provides a useful additional service to our freight customers, but also helps offset the losses on these passenger services," said Dr Williams.





## Plate assembled pipes for Morwell River crossing

The biggest steel pipe crossing in Australia has recently been completed in Victoria.

It carries VicRail's Gippsland main line across the Morwell River and flood plain about 140 km from Melbourne. The Armco Multi-Plate pipes used on the project were fabricated off-site in sections and bolted together on the job.

A total of 36 corrugated steel pipes of 3.6m diameter, which will carry flood water as well as the river's usual flow, were positioned beneath two existing timber trestles. The culverts were then covered with compacted earth up to the underside of the timber deck. The final stage involves cutting the deck away and laying of track on the embankment.

Armco (Australia) Pty Ltd says that in many instances the corrugated steel pipe alternative offers significant savings in design, fabrication and construction time over other bridging systems. Sites where poor foundation

material is encountered present no problem to the Armco system.

Cost and time benefits have been previously proven on a similar project involving 30 Armco pipes on the Fortescue River in Western Australia's Pilbara, as well as in hundreds of smaller projects.

The hot-dipped galvanised pipes can also be adapted to a wide variety of structural shapes for use as pedestrian underpasses, cattle underpasses, mine portals, storage bins, fluming and drainage culverts. Multi-Plate pipes and structures are available in sizes ranging from 1,500mm to a current maximum span of 13.6m.

Armco believes the Morwell pipe crossing is one of the biggest of its type in the world, equalled only by an installation in France. The crossing was completed earlier this year.

The project included the relocation of overhead electrification structures and the diversion of the Morwell river to a permanent new alignment.



*The bridge pipes are assembled on-site.*

**B**itupave Limited and the NSW State Rail Authority combined recently to develop a unique new method of lowering tunnel floors, using Bitupave's pavement profiler. The lowering of the tunnel floors was carried out as part of the electrification programme of the Illawarra line. The programme is expected to be completed by 1986 at an estimated cost of over \$150m.

## Pavement profiler goes underground

Preliminary test cores taken by the SRA showed there was a large percentage of unrippable rock in the floor of two of the six tunnels to be lowered. After a successful demonstration of the pavement profiler cutting surface sandstone at Waterfall, the SRA opted for its use in the tunnels.

The pavement profiler commenced work at 6 am one morning and, working around the clock throughout the holiday period, finished at 4 pm four days later.

The profiler used was a PR275 RT Roto Mill, which is hydrostatically driven. It employs a dual sensor levelling system and utilises 136 tungsten carbide cutting tips on a two-metre wide cutting mandrel.

After the SRA closed the line and removed rail tracks and ballast, the profiler made an initial pass to remove surface irregularities. Subsequent passes cut to the depth required with a 1-in-30 cross fall to the centre of tunnel for drainage.

More than 800 cu m of sandstone were removed from the Bald Hill and Stanwell Park No. 3 tunnels, at an average depth of 300mm.

The SRA installed control drainage prior to replacing ballast, relaying tracks, and reopening the line to traffic on completion of profiling.



*Bitupave's pavement profiler used by the SRA to lower tunnel floors on the Illawarra line.*





# Peak demands met for A N



**PROJECT:** AN Adelaide-Crystal Brook Standard Gauge Railway

**LOCATION:** Adelaide

**ASSIGNMENT:** Crush 100,000 tonnes of stone for rail ballast

**DEADLINE:** Four months

Australian National called tenders in December 1981 for 200,000 tonnes of ballast to complete the connection of Adelaide to the national standard gauge system and major associated freight centres and bogie exchange facilities at Islington and Dry Creek in the metropolitan area.

The contract for supply over 12 months at a minimum rate of 800 tonnes per day envisaged the rapid establishment of a major ballast stockpile at Islington to service a progressively increasing flow of 1,000 tonne capacity ballast trains. This required supply well in excess of the minimum specified rate during the early part of the contract.

The Readymix Group (SA) won the order in a joint tender with BMG Quarries and undertook the peak demand part of the contract. To achieve both the rate of supply and quality of ballast required, a Readymix Farley "Kangaroo" type plant was the logical choice.

Manufactured to the company's own specification, the new plant was installed on the floor of the Riverview dolomite quarry in a period of three days, and operated by the Readymix Farley Contracting Division from raw feed supplied by local production personnel.

Supply of over 100,000 tonnes was completed in four months at an average daily rate of nearly 1,200 tonnes, with peak supply days exceeding 3,000 tonnes.



## "Supply and quality excellent"

AN's Projects Engineer responsible for this project, Mr John Adams, said:

"The performance of Readymix in both rate of supply and quality of products was excellent and fully satisfied the standards and timing which the programme of this most significant project demanded."

When it's a job for the experts, contact the Readymix Farley Contracting Division at 100 Greenhill Road, Unley, South Australia. 5061 Telephone (08) 272 1122 Telex AA82640

# READYMIX

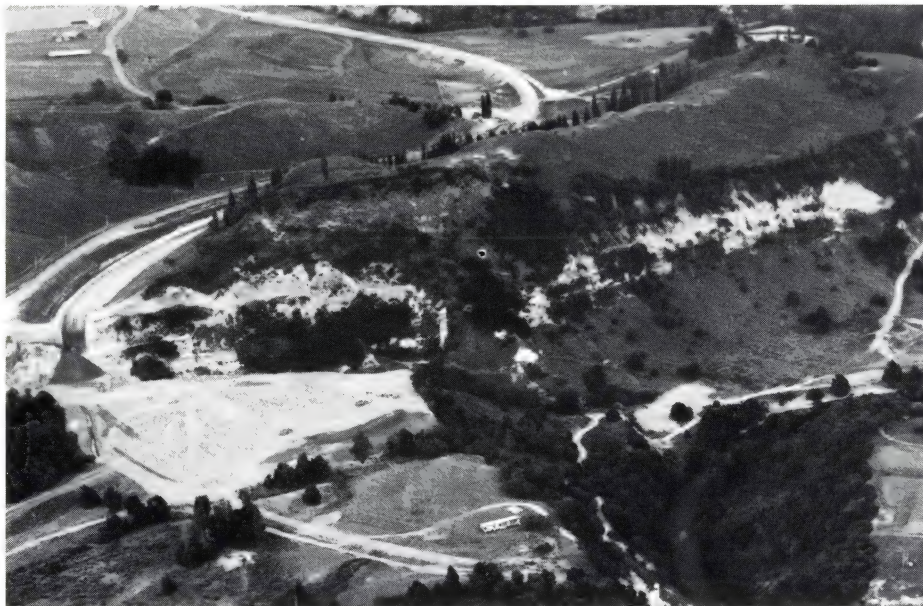
# FARLEY

Ready Mixed Concrete Ltd and Farley and Lewers Ltd are wholly owned subsidiaries of CSR Limited. The trading name Readymix is used by these Companies in Western Australia, South Australia and New South Wales (excluding Sydney Concrete). The trading name Farley is used in Queensland, Victoria and New South Wales. The companies also trade in some areas, including Northern Territory, as ABM.

GM 82/78



# NZ MAIN TRUNK WORK



*Above: An aerial view of the Mangaweka deviation under construction showing Blind Gully (centre left) and the Mangapae Stream deviation, with the Kawhatau Bridge site lower right. Right: Mangaweka deviation showing Blind Gully earthworks in progress. 180,000 cubic metres of earth were needed to fill the 55-metre deep gully — the largest railway embankment in New Zealand.*

**T**he Mangaweka deviation on the New Zealand Railways North Island Main Trunk railway, opened in November 1981, has won a top engineering Environmental Award. The award is made by the Institution of Professional Engineers, New Zealand, every two years to the engineering work which best exemplifies care for and consideration of environmental values. New Zealand Railways built the Main Trunk deviation to by-pass the original line from Mangaweka to Utiku, which followed a tortuous and earthquake prone route along a narrow bench 100 metres above the Rangitikei River.

Steep gradients, tight curves and six narrow tunnels made the original line difficult and costly to maintain and operate.

These factors, as well as the future electrification of the main trunk, led to the railways decision to re-route the line.

The new main trunk route crosses the Rangitikei River plains and hills between Mangaweka and Toetoe. The 9.5 kilometre deviation called for three major rail bridges, several deep cuttings and the filling of a 55-metre deep gully on a branch of the Kawhatau River.

In the difficult, unstable terrain, planning a new rail line to blend with the existing contours of the countryside, with the least possible intrusion on the landscape, presented a challenge to railway engineers.

**Three new bridges.** The largest of the three bridges on the Mangaweka deviation, the South Rangitikei Bridge, is unique in New Zealand and rare in the world.

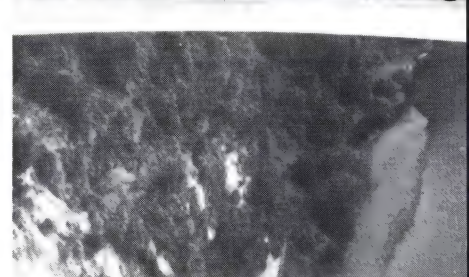
The bridge, standing 76 metres above the Rangitikei River, has a prestressed concrete box girder deck 320 metres long, with a maximum span of 56 metres.

The twin-column piers of the bridge provide the key to its earthquake resistance — each pier leg has a discontinuity at the base, which allows the piers to adopt a 'stepping' action in a seismic disturbance and has 'energy dissipators' installed to minimise the motion at the rail deck of the bridge.

The slender twin-column piers of the South Rangitikei Bridge reflect the vertical striations and colour of the sandstone cliffs which form the background countryside, while the straight lines of the prestressed box girders mirror the horizontal river plains.

The other two bridges, the North Rangitikei and the Kawhatau, each span similar valleys.

Total length of each bridge is 182 metres, and each was constructed by the cantilever method which eliminated any need for construction in the river bed, preserving river ecology. The visual form of the two bridges is dominated by the long slender central span, giving the impression of structures growing out of the valley walls. Neither bridge has a central pier,



*Above: A train load of Toyota cars crosses the Mangaweka deviation.*

and the drama of the single spans across deep valleys gives added impact to the scene.

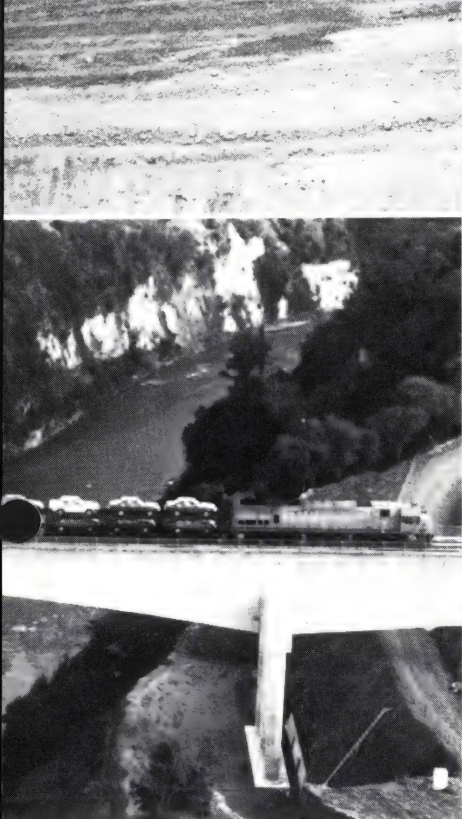
## Re-shaping the countryside.

Part of the land required for the deviation needed to be re-shaped, and NZ Railways decided it was essential not to disturb existing buildings or community facilities.

An historical cemetery and several scenic bush reserves were retained. A major diversion channel to the



# ENVIRONMENT AWARD



tiikei Bridge on the



*Above: The bronze plaque commemorating the 1982 Institution of Professional Engineers Environmental Award, with the Silver Fern railcar crossing the South Rangitikei Bridge in the background.*

180,000 cubic metres of earth was needed to fill the 55-metre deep gully, making it the biggest Railway embankment in New Zealand. Using the earth from the railway cuttings reduced the damage which would have resulted from forcing extra roads through valuable farmland, and also kept the embankment environmentally compatible with the area.

Material unsuitable for fill was hauled to a nearby branch of the Kawhatau valley to avoid disturbance of good pasture land.

**A well-earned reward.** The Mangaweka railway deviation, since it opened has allowed an increase in train size, reduced running time, and ended the previous problem of major slips blocking the North Island Main Trunk Line.

It illustrates the NZ Railways policy of planning for the future . . . the practical railway operating considerations which led to the construction of the deviation were combined with environmental forethought, an essential ingredient of Railway work and one for which the rail mode of transport has proved extremely suitable.

NZ Railways met the Mangaweka challenge with a practical, environmentally protective answer — which has now been recognised throughout the engineering profession with the IPENZ Environmental Award for 1982.



NZ Railways gave early priority to the protection of farm land and activities. In areas where the line crossed farmland, stock access was maintained without undue restriction.

Where fill was borrowed from farmland, the areas were reinstated to pasture after contouring, rock removal, topsoiling and sowing, with a programme of oversowing at intervals to ensure acceptable re-establishment of grass.

Earth from several major cuttings on the deviation was used to fill Blind Gully, a branch of the Kawhatau valley.

Mangapae Stream was designed to avoid a scenic bush area at the head of Blind Gully.

The new Railways loop and yard facilities at Mangaweka were located away from the town and school to avoid railway intrusion on the activities of the community.

Many road alignments in the area were upgraded, and new culverts were installed to improve drainage and reduce the risk of flooding.



## Computer keeps track of QR's EMU fleet

The new system at QR's Mayne Railway Yard Electric Train Shed, which was installed to organise the stabling and allocation of suburban electric trains during the Commonwealth Games is functioning very satisfactorily and has become a valuable asset in the operation of Electric Trains.

Based on a Data General CS10 Model C3 mini-computer, it also keeps track of the cleaning, servicing and repair requirements of engine units called "Electric Multiple Units".

The decision to install the system was spurred on by the Commonwealth Games, during the staging of which all

trains had to be completely rescheduled to cater for different peak demands.

Apart from the processing unit of 128 KB of memory, the system includes three Display Units with keyboards, 12.5 million bytes of disk storage, with a further 1.2 million bytes of storage for back-up purposes.

An Epson MX80 matrix printer is also attached to the computer.

The system ensures that each electric unit is allocated the most appropriate timetable when it returns to the depot, the most convenient time for

scheduled maintenance and minimum shunting time.

In addition, the system keeps track of major components in the units and records and reports all faults as well as plans train movements. The computer records the present location of a particular component, the dates on which it is due for its next overhaul and any other items which may be associated therewith.

It also records historical performance information about the component — for example it will calculate when the wheels on a particular electric unit require replacing.

## VicRail Northern Loop survey

VicRail is to conduct a travel survey aimed at determining likely patronage of the city underground's Northern Loop — the fourth and final tunnel in the underground railway system.

Travellers on the Broadmeadows, Upfield, St. Albans, Williamstown and Altona lines will be asked for information about their journeys to show how they might use the Loop when it opens.

VicRail General Manager, Mr R. J. Gallacher, said the survey will be held on Tuesday morning, March 22, when passengers will be asked to fill out a simple questionnaire on their

movements to and from the city.

Cards listing the questions will be handed out at Flinders and Spencer Street Stations and boxes will be provided for their return.

Questions asked will include:

- Where did you board the train;
- Where will you be getting off;
- Desired arrival and departure time;
- Point of work or destination.

A map of the inner city area will be attached and passengers will be asked to mark their destination.

Mr Gallacher said purpose of the survey would be to assess the proportion of rail travellers that may find it convenient to use Loop stations.

Data gained will be used in preparation of timetables and routing of trains through the Loop.

Similar surveys were held before opening of the Burnley, Clifton Hill and Caulfield Loops.

A spokesman for the Melbourne Underground Railway Loop Authority, construction authority for the underground, said it was hoped Flagstaff Station would be opened at the same time as the Northern Loop.



## Kathy's got 10,000 AN fans

Australian National Railways Commission will sponsor 17-year-old Kathy Buzzacott as an entrant in the 1983 Miss Australia Quest.

She will be Australian National's first ever entrant in the Quest and one of the few Outback participants in the Quest's history.

Kathy whose father Kevin works for AN, is a librarian at the Tarcoola Special Rural School.

She was born in Alice Springs and has lived in Hamley Bridge, Blyth, Yacka, Brinkworth and Adelaide where she attended Concordia College.

She moved to Tarcoola in 1979. Her interests include netball, tennis and travel.

As 'Miss Australian National' Kathy's task over the next seven months will be to raise money for the Woodville Spastics Centre.

On October 2, she will compete in Adelaide for the title of Miss South Australia who later meets finalists in the Miss Australia Quest in Sydney.

Her efforts will be supported by AN's railway staff of more than 10,000 based around Australia.



# Westrail looks at two-man crewing

An economic evaluation of the two-man train crewing issue has concluded with a call for a more detailed analysis as a basis for decision on a satisfactory procedure for the introduction of this new working.

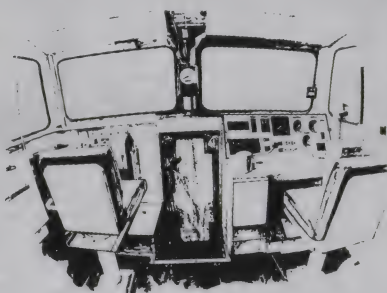
Westrail has had talks with State and Federal railway unions which have discussed the formation of a joint committee to further examine the proposal.

The report defines Westrail's reasons for the need to continue discussions on the introduction of two man train crews.

**'The report calculates that the rate of retirement and resignations of drivers, firemen and guards on Westrail's system greatly exceeds the anticipated reductions caused by the introduction of two-man crews'**

terms. This would eliminate the assumption that a decision had been made to proceed with particular trains without consulting the Union. With this in mind the report focuses on all lines regardless of the signalling system and confirms that the railway safeworking rule book could be modified to suit two-man crewing while still maintaining an equally safe operation.

The report mentions that overseas rail systems have reduced train crews and that there is no evidence their operations have been made less safe. The report recognises that a locomotive driver has a full time job driving the locomotive and carrying out the added responsibilities allotted to him under the rules and regulations. The fireman and guard, although required to be present, are for the majority of the shift substantially underloaded with productive work.



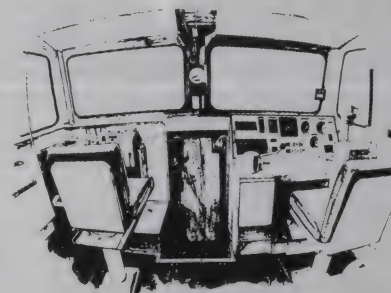
It determines that a logical starting point to an examination of two-man crews would be to focus on train services with the least work to perform during a journey and as experience is gained then extend the examination to other trains.

The second man in the train crew would come from the rank of firemen or guards, while qualified firemen and

later qualified second men would progress to drivers. Such a system is practised in Canada.

Westrail currently runs training schools for train crews and during the next five years, despite the phasing out of lower powered locomotives, traffic fluctuations and improvements in efficiency there will be a continuing need to recruit train crews.

The report categorically states as a matter of policy, guaranteed by the Commissioner, **that unless individuals choose to the contrary, all existing firemen and guards will continue in their present designated duties.** No one will be compulsorily moved from one place to another solely because of the introduction of two-man crews. As a basis for its costing model the evaluation examined a full days working excluding suburban passenger train services and used a figure of 310 crews.



The report concluded that 50% of trains should be manned by a two-man crew, a saving of 150 crew members. The implementation of the policy could extend over a number of years commencing in the easiest areas and with satisfactory experience spreading into other areas.

The productivity gain would be shared with employees concerned in the new working. This could be in the form of additional payment per trip as a member of a two-man train crew. The net cost saving to Westrail when all factors were taken into consideration is estimated at roundly \$2m per annum.

The report justifies the need to review the operation and manning of freight services. More detailed study and discussion should occur between the unions and Westrail to determine satisfactory procedures for the introduction of reduced train crew consists.



The ever increasing changes to the transport environment and the pressing competitive forces are placing Westrail's traditional as well as potential business in a vulnerable position. Measures must be sought to reduce costs and lift its efficiency rating so that it can carry traffic better and cheaper than its competitors.

Conveyor belts, electric transmission, pipelines and improved technology in road vehicles have caused Westrail to look deeper at its existing freight markets and to research ways to improve its financial performance. Unless it takes these measures its overall losses will be such that the organisation will be forced to shed staff at a greater rate than that required through progressive improvements to productivity.

On the other hand the ARU in the past has been tentative in regard to discussion on the issue as they see it reducing job opportunity in the future and affecting their membership. Discussions set up between Westrail and the Union to investigate the feasibility of two man crewing broke down in October 1981 when ARU members at Collie and later Kwinana refused to work trains.

The dispute was settled on the basis that an economic study be carried out and that the analysis did not concentrate on specific trains but would cover the subject in general



# New Comsteel bogie is a 'swinger'

**The problems.** With today's conventional freight car trucks, critical speeds for hunting start at about 50 mph for cars with worn wheels, and at approximately 70 mph for cars with new wheels. (Only about 10% of the life of a wheel can be considered "new-wheel" conditions.)

Running at critical speeds usually leads to extreme wear of wheels and running gear, and an uncontrolled ride that can cause derailment and/or damage to car and lading.

This means, in effect, that virtually all freight cars must operate at or below speeds of 50 mph — or risk the consequences. Freight cars with a

high center of gravity (84" or higher) and conventional trucks with truck-center distances approximating rail lengths (from 28 to 45 feet, and above 60 feet) can experience excessive car roll at 15-20 mph loaded, and at 30-40 mph under light car conditions.

Under extreme conditions, such as on curves with low rail joints, etc., severe car roll can cause derailments.

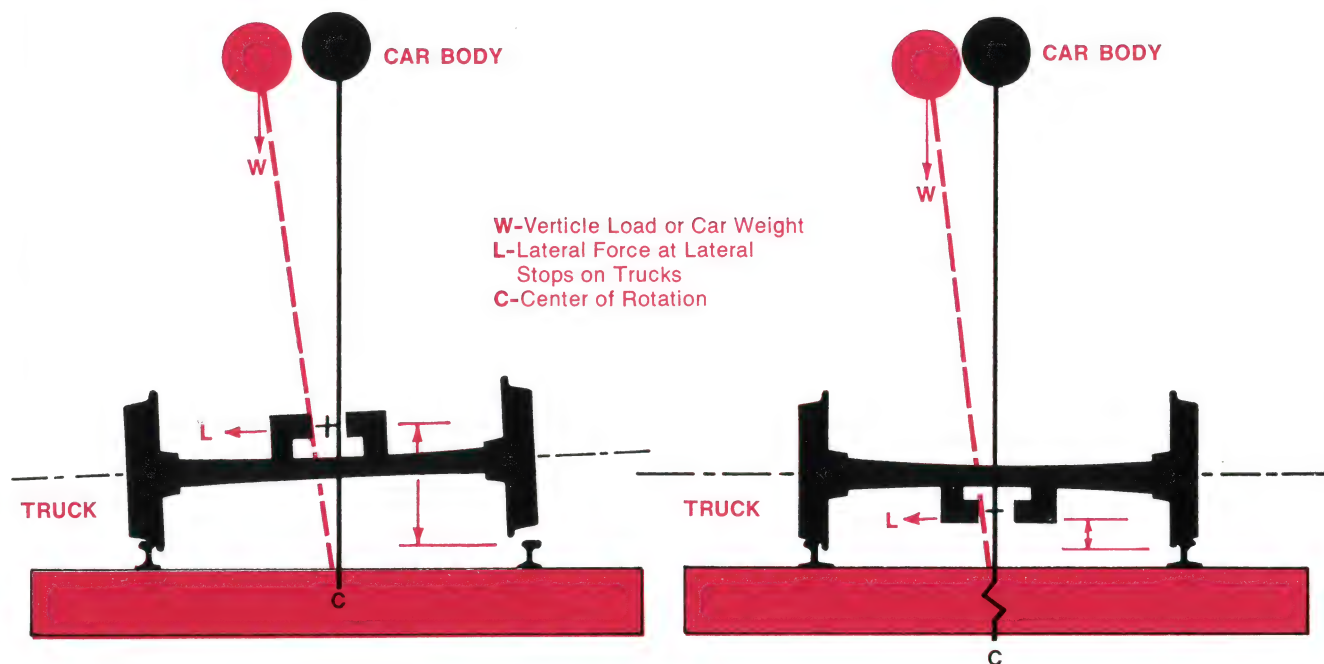
**The solutions.** Superficially, there are three alternative solutions to these vexing operating problems. One solution is to equip cars with costly high-speed trucks to solve the hunting problem.

However, this may or may not necessarily solve the problem of harmonic car roll.

A second apparent solution is to equip freight cars with conventional trucks plus expensive hydraulic or similar antiroll devices to control the roll problem.

Ordinary friction control devices or auxiliary snubbers do not provide the same high degree of effectiveness, nor do they solve the serious problem of high-speed hunting.

The third, and most logical solution to these conflicting problems, is to equip cars with National Swing Motion Trucks. They solve both problems.



**Conventional Truck.** Note how lateral forces are transmitted through bolster gibs to sideframe columns. The distance from the line of lateral force application to the top of the rail, multiplied by the lateral force, equals overturning moment of truck, which can cause wheel lifting and derailment.

**National Swing Motion Truck.** Lateral stops are lowered so that forces are transmitted from bolster bracket to transom and to sideframe through the spring seat. This reduces the distance to the top of the rail and thus reduces the overturning moment to minimize wheel lifting and derailment. Furthermore, the friction mechanism provides control for the full 1¼" of lateral bolster motion. This increased control in combination with a lower center of rotation assists in reducing wheel lift and derailment.





They are less costly and less complicated than other high speed trucks and avoid maintenance problems experienced with hydraulic devices. They are more effective than either increased-friction or snubber-equipped trucks. They can provide significant cost savings through greatly reduced wheel wear and car maintenance.

**The results.** With National's new Swing Motion Trucks, freight cars — either light or loaded, and with new or worn wheels — can be operated at speeds to approximately 100 mph . . . with a controlled and improved vertical and lateral ride . . . without dangerous rolling, pitching, swaying, yawing, or hunting . . . and without incurring excessive wear.

National's Swing Motion Truck achieves this remarkable performance and cost breakthrough by means of a unique design that incorporates a

nonlinear (two-stage) vertical and lateral suspension system.

Design geometry of the swing motion components provides a low resistive force against lateral displacement of the bolster. When lateral displacement forces (large track irregularities, for instance), exceed this low resistive force inherent in the swing motion geometry, then the second stage of operation (resistance of high capacity springs) takes over. Thus the low-resistance lateral characteristic of the National Swing Motion Truck reduces critical speeds for hunting to below 25 mph at which point the forces involved can be controlled and are, therefore, insignificant. The point of application of lateral forces is lowered from the height of conventional bolster gibs to the height of the spring seat. Thus, the overturning moment of lateral forces which cause wheel unloading and, under extreme conditions, wheel lifting and derailment, is, therefore, reduced significantly.

## High-speed hunting.

Depending on the general condition of the wheel treads and wheel flanges, and on the weight applied to the axle, resonance conditions will be encountered which cause violent lateral forces that are harmful to rails, trucks, car body and lading. These forces are caused by the uncontrolled hunting motion of the trucks and car body. Hunting, in turn, is the result of the wheel profile taper or "coning".

This causes a rolling wheel and axle assembly to move along a pair of rails in a sinusoidal pattern (see accompanying sketches), creating a periodic lateral disturbance. Hunting becomes dangerous when this lateral disturbance is in resonance with the roll, yaw or sway modes of the car, and when that resonance cannot be effectively controlled.

If resonance occurs at low speeds, as with the Swing Motion Truck, lateral



forces are small and easily controlled by a properly designed damping mechanism of the truck. If resonance occurs at high speeds, as with conventional trucks, the forces become great enough to cause sliding of the wheels on the rails, heavy lateral impacts between flanges and rails, excessive wear to trucks and drawgear components, and even damage to lading.

**Increased lateral motion.** This feature is obtained by incorporating a transom connecting the sideframes and supporting the load springs, a rocker connection between adapters and sideframes, and a rocker connection between sideframe and transom.

This design permits sideframes to swing laterally in unison as swing hangers. Swinging of sideframes beyond 3° each side of center-line is prevented when frame tension member contacts underside of rocker seat.

Clearance between these surfaces permits  $\frac{5}{8}$ " lateral motion to each side (total of  $1\frac{1}{4}$ ").

The resistance to sideframe swing depends on weight carried. Therefore, resistance to lateral motion varies in proportion to vertical load.

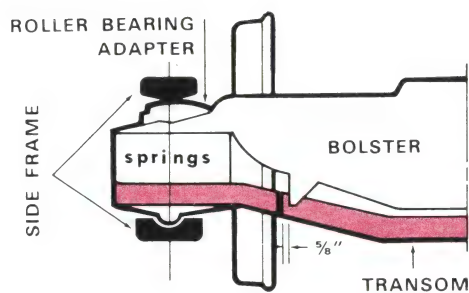
An additional  $\frac{5}{8}$ " lateral motion to each side is available through lateral deflection of the load springs totalling  $1\frac{1}{4}$ " to each side, or  $2\frac{1}{2}$ " in all.

## High speed performance.

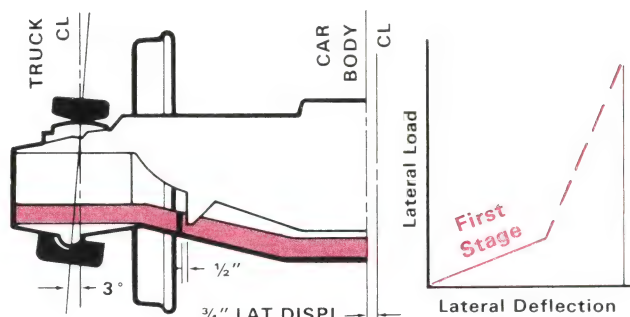
Controlled lateral action is vital for good high-speed truck performance.

First, normal track irregularities and hunting motion of wheel and axle assemblies result in lateral motion to each side from the center. Unsprung truck components disturb the sprung car body during these movements.

Due to low lateral resistance of the National Swing Motion Truck, the lateral forces transmitted to the car body are small. This results in a good ride despite disturbances from turnouts, crossings, etc., which are cushioned by stiffer response before solid contact is made. Since lateral forces are low and solid contact is practically eliminated, very little wear occurs on wheel flanges, truck and car components.

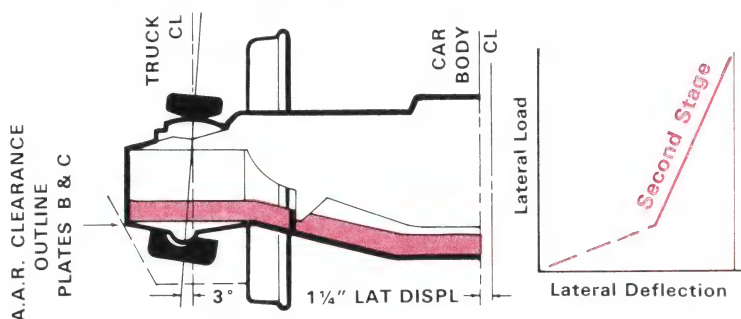


Centered Position



Lateral Displacement in First Stage.

Low resistance protects against lateral disturbance.



Maximum Lateral Displacement in Second Stage.

High-resistance protection against over-solid lateral impacts.

Second, and even more important, the low-resistance characteristics permit the National Swing Motion Truck to run at speeds in excess of the critical speed which causes hunting.

## Special features of National Swing Motion Truck.

Special features which contribute to performance are:


- Increased lateral motion ( $\pm 1\frac{1}{4}$ ", or total of  $2\frac{1}{2}$ ") with swing hanger type of suspension.
- Incorporation of roll control feature

that increases stability against car roll.

- Elimination of bolster gibs so that lateral forces are transmitted through transom to sideframe.
- Two-stage long-travel load springs that give a soft response to vertical forces under empty or lightly loaded cars, and a stiffer response under a fully loaded car. Uses new  $4\frac{1}{4}$ " travel D7 springs.
- Hardened alloy steel replaceable wear liners at important points.
- Alternate spring groups are available for use on bulk load cars.







# Bushfires leave legacy of destruction

The tragic bushfires in Victoria and South Australia are behind us now, but the legacy they left will long be remembered.

Leaving aside cost of human lives, homes and livestock cost to railways was substantial too.

VicRail, for instance, was left with a damages bill of more than \$600,000.

Picturesque Mt Macedon, scene of world acclaimed Australian made film "Hanging Rock", has a railway station. After the fires it had half a station.

"Down" side of the station was burned to the foundations with only the roof left hanging crazily by two upright steel stanchions. Cost of rebuilding it and the nearby fire-ravaged goods shed was put at \$150,000.

Damage to three bridges, sleepers, rails and signals and communications systems lifted this figure to \$264,000. Even harder hit was the section of the Melbourne-Warrnambool line east of Warrnambool where 1½ kilometres of line was burned out between Terang and Panmure.

Damage there reached \$265,000. A total of 9000 sleepers was destroyed, rail distorted, and 500 new sleepers left by the line for new work burned where they lay.

Replacement cost was put at \$224,000 while culvert, bridge transom and signal and communications damages accounted for a further \$41,000.

Third area mostly affected by the fires — the Beaconsfield and Officer region

near Dandenong, east of Melbourne — suffered railway loss of \$21,000.

The fires cut rail services between Terang and Warrnambool, Dandenong and Pakenham and closed the main Melbourne-Bendigo line between Gisborne and Woodend beneath Mt Macedon.

VicRail aided the fire fighting effort by use of three separate 'fire' trains — diesel-hauled water tanker trains, one equipped with a fire gun, which were despatched to the fire zones at request of the Country Fire Authority.

Nearly 100 VicRail staff, also CFA volunteer firemen, were released to fight the fires. In addition, special goods trains and road trucks ran in Melbourne to collect blankets, clothing, household goods and food left at suburban stations to help aid the fire victims.

Sections of Melbourne Freight Terminal were cleared for use by the State Relief Committee and the Salvation Army in their drive to collect and distribute these goods.

A later development saw VicRail, in conjunction with the Railway Construction and Property Board, allot four railways residences for use by people whose homes were destroyed.

General Manager of VicRail, Mr R. J. Gallacher, said total damage to VicRail property was \$550,000. Cost of providing fire fighting trains, relief facilities and substitute road passenger and freight operations was a further \$100,000.

*Stark reminder of damage caused in the Victorian bushfires is shown in this stand of pines in the Dandenong Ranges.*



# See Australia's Sunshine State

## Catch the Sunlander



Since most of Queensland lies within the tropics, the ideal way to sample its varied delights is by comfortable, air-conditioned train. The Sunlander takes you right into the heart to Queensland's most beautiful country at an easy, relaxed pace.

### The sunshine route

Catch the Sunlander from Brisbane and settle back for a discovery tour through a State of startling diversity.

Each town, each city has its own peculiar charm. Farms give way to bushland and great plains, rugged ranges and tumbling falls. Rail: it's the perfect way to get acquainted with a relaxed, friendly State.

### Cairns to Kuranda

If you're in Cairns for some big game fishing, boating, or swimming, make a point of catching the Sunlander inland to Kuranda, on the Atherton Tableland. The Cairns to Kuranda route opens up thirty-four kilometres of spectacular waterfalls, gorges and lush tropical greenery.

### About your train

The Sunlander runs between Brisbane and Cairns, in Queensland's tropical north. It is equipped with air-conditioning, first and second class sleeping and seating accommodation, and Club Car service. The Sunlander has a full Dining Car service where three-course meals and wine may be enjoyed.

### Capricornian to Rockhampton

If you can't spare the time to go all the way to Cairns, catch the Capricornian instead. It takes you right into the holiday centre of the central Queensland coast, terminating at Rockhampton.

Travel the tropics with

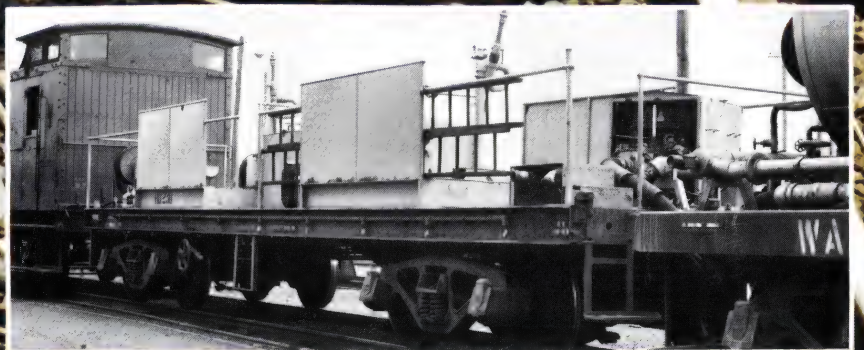


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305 Edward Street,  
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*Buckled lines, burnt out sleepers and bridge supports highlight the ferocity of the fires in the Mount Macedon area. This bridge runs over Nursery Road, Mt Macedon. Inset, top left: Mount Macedon Station showing the down side station building hanging crazily by its roof supports. Inset bottom: VicRail's fire-gun equipped wagon hauled by the fire attack trains.*





# One of Europe's best bargains - the

Noticing that he had neglected to take his heavy luggage, the friend reached it down from the rack, hesitated, then went to the window, to pass it through in the approved fashion.

There was no sign of life on the platform, now rushing past as the train gathered speed in the way only electrically-hauled trains can do. It seemed like an age but it must have been only a few minutes.

The window was opened, the case suspended uncertainly a moment or two, then dropped into the darkness as the train continued to accelerate. If the man had not already jumped he would kill himself! Perhaps he was even then lying in the snow, soon to be buried by the silently descending mantle. The other man closed the window, sat down, and wiped his brow.

At that moment the door slid open. It was possible, without understanding a word of Yugoslavian, to follow the ensuing conversation exactly. Open mouths, enquiring glances, gesticulations in the direction of the luggage rack and window, the pulling out of a wallet and its brushing aside told more than any words. 'With friends like you, who needs enemies' seemed the predominant theme.

I felt sorry for the big man next to me; he had tried to help. It was well meant. It was hardly his fault that his friend was now speeding on towards Germany while his baggage lay broken and bruised in the snow of Linz railway station.

Eventually they shook hands. Another traveller had woken in time to witness the altercation, and a drop of sljivovica seemed to soothe all round. The train was now approaching Wels, where the two would have to leave, one presumably to find his way back to Linz to retrieve whatever remnants of his baggage still existed.

But before then, voices approached along the corridor, official-sounding voices, speaking German in a typical no-nonsense way, speaking with authority. The door opened once more to reveal what might best be termed a posse of railway officials. They were inquiring, I gathered, about a piece of luggage that had been reported thrown from the train at Linz. Documents were called for, tickets produced, and the last I saw of my travelling companions was their being

led away, no doubt to "assist the police" in their enquiries. I found that the man remaining opposite me had a sense of humour. A good Slav sense of humour. A rocking, bone-shaking sense of humour. For the rest of the journey we had only to look at each other or point to the window or luggage rack for the tears to roll from our eyes in helpless mirth.

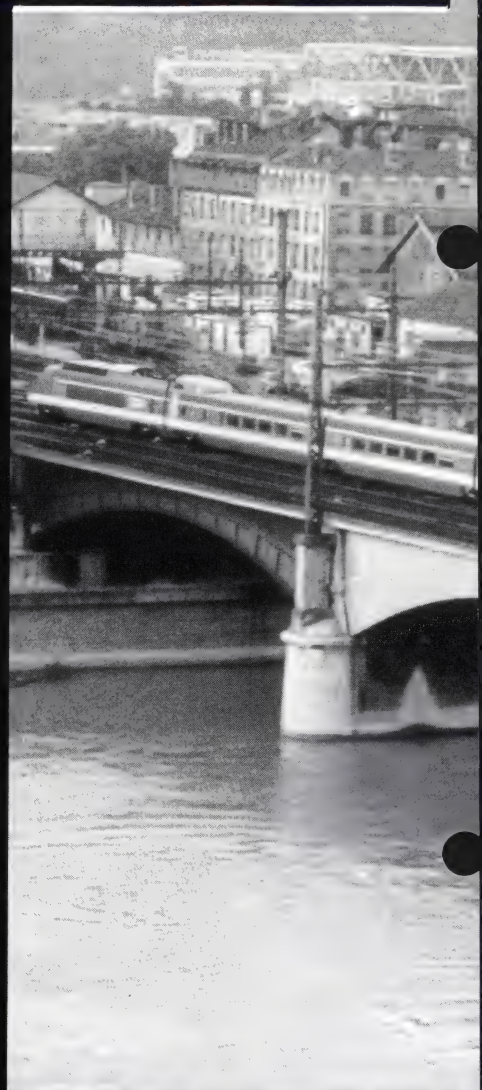
That is one of the troubles of travelling overnight on international and other long distance express trains — falling asleep. The other is not being able to sleep. The non-availability of food and drink, particularly water, is also a problem, but it can be overcome with a little foresight. Not all trains suffer these defects. The TRANS EUROP expresses are first class in nearly every way — indeed on the best of the European trains the only real lack, to an Australian, is a shower cubicle. It is difficult to keep clean when on some trains the only water source is a broken tap in a tiny cupboard compartment. Sometimes there are hot taps, more often than not producing only spurts of superheated steam, and labelled "caldo" to make the unwary English-speaker think they are cold.

On the credit side European trains are by Australian standards incredibly fast, and both the trains and the stations are well provided with facilities. Even where the train has no buffet you can usually obtain a snack at some station en route or from a trolley on the platform.

That is, provided you have money of a negotiable kind. I recommend every Eurail traveller to carry half a dozen wallets, each filled with a different currency, plus a wad of small denomination travellers cheques in either English pounds, American dollars, Swiss francs or West German marks. Don't try to change Escudos in France, or Lira in Spain.

Once, I managed to change Austrian schillings in France — and coins at that. I had spent a fruitless ten minutes at Geneve trying to fit a French franc into a Swiss slot machine, trying to rid my pockets of their weight of surplus coinage. When travelling across so many borders you can easily forget where you are. Arriving fortuitously at Metz at three-thirty in the morning having slept through my intended disembarkation

By Colin J. Taylor, University of Queensland, who travelled by rail in winter through Europe recently. This is the second half of a two-part series begun in Network's March quarter issue.



point of Strasbourg, and feeling in need of sustenance; to my surprise and pleasure (it being Sunday where in some parts of the world everything would have been closed) I found the station buffet open. Not only open, but warm, crowded and swinging. There must have been two hundred people at least and there was an overall party spirit, evidenced by the pint mugs of beer, glasses of wine, coffee and general noisy hilarity punctuated by the occasional punch-up. Where everyone was going to, or coming from, I could not imagine, as I



# Eurailpass - Part two



had been the only passenger to alight on the lonely, cold platform. Some sort of refreshment was clearly indicated, but Metz was Germany (wasn't it?) and I only had a few marks left. Perhaps this was a chance to unload schillings. I tried.

The reception was cool. However, a reveller at the bar who appeared to know the management, or at least spoke the language, came to my aid. He saw in me the possibility of a 'shout'. He was right, but to my surprise, they exchanged my schillings for francs, not marks. (I had

about fifty francs in notes in my wallet!) Well, fair enough, so long as they were prepared to accept francs in payment. They were evidently quite willing to do so — not surprisingly for a town in France — a geographical error which I appreciated only on checking the map later.

Of all the trains in Europe those in Spain have the reputation of being the slowest. In terms of overall average speed, this is probably true, but what I found most irksome was their incredible ability to crawl for endless kilometres at a pace only slightly above walking speed. It seems they have a specially low gear. They have another habit of standing still for long periods, as if waiting for something that never comes. Spanish station clocks are never right; this helps in that you don't know how late the train is, assuming you can read the timetable. This, though beautifully printed, is artfully arranged to confuse the passenger.

The trains on your line will not all be on table six. No, some of them will be on table fourteen and yet others on table twenty. And none of the tables will have the trains arranged in chronological order of departure. So it is not so bad when you find you have missed a train you didn't know existed because it was running late anyway. An incessant mournful blowing of horns characteristically heralds the passage of these unexpected and long forgotten trains. It is said that Spanish trains are slow because the track has so many right angle bends.

Certainly it has some curious sudden kinks as though someone with giant pincers had reached from above and twisted it, but the reality is probably that the Spaniards are not in a hurry. It is a sun-drenched, leisurely country and nobody likes to waste energy rushing about, especially in the afternoons.

In fact the finest train of my whole tour was Spanish, though the Rheingold and the Italian Settebello with its nosecone observation car were close runners-up. The Spanish Catalan Talgo is unique. Low, wide bodied, articulated together like a caterpillar, with short little carriages flush with the platform for easy entry, this is a train of top luxury class. The incredible thing is its ability to change wheel-gauge at Cerbere on

the French border, without the passengers being aware of more than a few curious noises as it slowly moves off the end of the Spanish RENFE system onto SNCF track.

Because of the air-conditioning you cannot open windows and lean out to see what actually happens. You are instead enjoying pre-lunch sherry in the gourmet dining car and before you realize anything unusual has occurred the train is speeding effortlessly once more along the Mediterranean coast.

It was in Spain that perhaps my most memorable journey took place. The TER (Diesel luxury air-conditioned train) consisted of two coaches, of which the buffet occupied half of one. There were some two dozen passengers in all, and I faced a long and probably slow journey to where I wanted to be.

I sought the bar to sample its offerings. There did not seem to be much in the food line but I tried a ham sandwich. It was about the worst, and most expensive (for what it was) I have ever experienced. Buffet and restaurant cars through most of Europe are operated by a consortium, which does not mean identical facilities and service. Each country seems to have its own standards, and there are tremendous variations. Spain, which is generally cheap, produced a sandwich consisting of one wafer thin slice of smoky ham between two dry slices of cut bread, with no butter, for the then (1977) equivalent of about 70 cents Australian. France, which is on the whole expensive, produced (on a luxury first class Trans Europ train L'arbaletel) half a French bread roll at least a quarter of a metre long, crisp, loaded with butter, and filled with rolls of juicy ham, all for less than a dollar. Nevertheless, the Spanish car attendant was friendly and the beer was cold and sharp.

Returning later, I found several men in the buffet. One I recognised as the travelling ticket collector, another was the Guard. They all had the appearance of railwaymen and were spooning into a large plate of fresh and extremely tasty tossed salad. I know it was tasty because I was welcomed like an old friend and offered a spoon. Then the buffet attendant appeared with a plate of meat and some rolls of bread, hot and crisp from the oven. I asked "how much?" but was told: "No, not for public. Help yourself."

(continued on page 52)



# The other great train robbery.



It's easy to think you're saving money on locomotive maintenance by buying non-genuine replacement parts. But saving a few dollars here and there could end up costing you a fortune all along the line. In re-repair costs. Lost earning hours. Lost business. All for the want of genuine EMD parts that have been specifically made for your Clyde-GM locomotives.

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# VicRail's V.L.D. train

Her Royal Highness the Princess Anne, Princess of Wales, arrived in Melbourne on the premier car produced by the Victorian Railways. The train was received with great enthusiasm and was seen by thousands of people on its way to Ballarat.

The Royal Train consisted of two diesel electric S class locomotives, an AZ carriage, the Norman carriage and the State Car No. 4. The Norman

construction was built in 1974, internal modifications were carried out including provision of a modern bathroom and toilet facilities. At the same time, a new electrical

Charles' parents Her Majesty Queen Elizabeth the Second and His Royal Highness The Duke of Edinburgh travelled by rail to country areas.





**C**ommuters in London and Birmingham are sampling a prototype train which could herald improved speed and comfort standards for travellers on British Rail's non-electrified suburban and local services. Designated the Class 210, it is a diesel-electric multiple-unit designed as a possible successor to some of British Rail's ageing first generation diesel multiple-units, which are now nearing the end of their useful life. These trains — about 3000 cars in total — are the mainstay of local passenger services in non-electrified areas. Their duties range from short branch line runs, through long distance, cross country service, to handling busy commuter traffic. Most are now well over 20 years old, and, while an extensive programme of refurbishing has improved their appearance and comfort, maintenance of older cars is becoming increasingly difficult and expensive. So decisions about their replacement will have to be made soon.

In considering the future requirement for diesel multiple-units, British Rail has three types of service in mind. Firstly, there are the remaining rural branch lines, where passenger loadings generally are light. Then come the less-busy suburban/commuter routes around Britain's larger cities, where the level of traffic is not likely to justify the high cost of electrification.

And finally there are the secondary main line and cross-country routes, on which the disparity in comfort and amenity between today's aged multiple-unit sets and modern inter-city coaches is particularly marked.

**Three and four car sets.** The first level of service is likely to be catered for by a version of the Class 140, which is a lightweight, two-axle railcar prototype unveiled in 1981. Variants of the new Class 210 will fulfil the requirements of the other two service groups. A three-car set, without first class accommodation, toilets or baggage space, is intended for short distance inner-suburban services. A four-car on the other hand, has all three of these facilities and is designed for longer distance commuting and cross-country routes. Constructed by British Rail Engineering Ltd, the Class 210 trains have many features in common with the latest electric multiple-unit trains, and they can achieve the same high level of performance. They have improved acceleration, for example,

with the levels of reliability and ease of maintenance for which electric rolling stock is well known. Seating is open plan, with passenger access between all vehicles in each set. The large windows are similar to those in the latest inter-city coaches, and there is fluorescent lighting. Pressure heating and ventilation greatly improves passenger comfort, while reducing noise and eliminating draughts. Air spring suspension gives comfortable travel at speeds of up to 90 mph. Wide opening, push-button, sliding doors are provided for the first time on British diesel multiple-units. In contrast to the majority of existing diesel multiple-unit trains, which have mechanical gearboxes and transmissions, the Class 210 has electric drive, fed from a diesel powered alternator mounted in the driving motor car. This takes full advantage both of experience gained with the many types of diesel engine in the existing fleet and of the latest diesel traction techniques.

**Above the floor.** The single, high powered engine is mounted within the car body rather than beneath floor level, and is positioned off-centre to give space for a side corridor past the engine compartment. This will allow through access between sets coupled together — a facility possible with only a few of the existing multiple-units.

The trailer car body has many features common to British Rail's successful and cost effective MkIII inter-city coach. The arc welded structure is load bearing throughout, and mild steel is used both for the bodyside frames and for the exterior cladding. The underframe is of cold rolled or pressed steel members, and steel portal frames provide strengthening around the door openings.

The power car body is adapted from the trailer design. Modifications are necessary to accommodate the extra weight of the power equipment and provide for its easy removal and replacement. Strengthened longitudinal and pillars have been incorporated, as well as diagonal members across the cooler group opening.

Many of the interior fittings of the MkIII coach are used in the Class 210, with extensive reliance on melamine surfaces and glass reinforced mouldings to make for easier cleaning.

A new style of seat has been fitted, consisting of a strengthened, vacuum formed aluminium seat-back, and

# BR's



seat cushions and back squabs with sprung interiors topped with a thin layer of polyurethane foam. While being both inexpensive and likely to last a long time, this type of cushion also reduces the amount of material that would contribute smoke and fumes in the event of a fire. All other interior finish materials are chosen with fire resistance in mind.

**Power equipment.** The Class 210 has one diesel engine per set, with electric transmission to bogie mounted traction motors. Two diesel engines have been mounted in the prototypes — a British built GEC Diesels<sup>®</sup> 6RP200 for the four-car set and a German built MTU 12V 396 TC12 unit for the three-car set. The GEC engine is a derivative of the Paxman Valenta which powers British Rail's Inter-City 125 trains, which are the world's fastest diesels.

It is a six-cylinder, in-line design rated at 1125 hp at 1500 rev/min. The MTU engine is a 12-cylinder V-unit rated at 1227 hp at 1500 rev/min.

The cooler group is mounted within the engine compartment and so scavenges it of oil mist. The extractor fans are hydrostatically driven from the engine, and there is a positive flow of air from the electrical compartment to the engine compartment. Each power car carries an underslung tank of 495 UK gal



# NEW 210

By Chris Bushell,  
Editor, "Developing Railways",  
London.



capacity, which is sufficient for an operating range of about 620 miles. Alternative and interchangeable sets of electric transmission equipment have been fitted, from Brush<sup>(1)</sup> and GEC Traction<sup>(2)</sup> for the four-car and three-car set respectively. In each case the diesel engine directly drives a main alternator for traction power and an auxiliary alternator for other services. The alternators are housed in a clean air compartment ventilated by filtered air drawn from outside by the alternator fan.

The main alternator is rated at 650 A, 1200 V three-phase ac. Solid state rectification is provided to handle a continuous current of 1550 A dc. The rectifier diodes are in the clean air compartment with forced air cooling. Each power car has four, axle hung, self-ventilated traction motors, each rated at 190kW at 1630 rev/min, taking 335 A at 620 V. This gives a maximum tractive effort of 20,680 lbf per power car.

### Three intermediate steps.

Power is controlled by regulating the diesel engine speed from idling at 750 rev/min through three intermediate steps to a maximum of 1500 rev/min.

A load regulator controls the main alternator excitation through thyristors operating in a conducting angle mode. The auxiliary alternator

output is three-phase ac, with variable voltage and frequency over the nominal range of 207 V 25 Hz, and at all engine speeds except idling has an output of 150 kVA.

This output is used at generated voltage and frequency for the heaters and the compressor and ventilating fan motors, while a transformed and rectified supply at 110 V is employed for battery charging, lighting, control, the public address system and the fuel pump motor.

A single, electrically driven compressor under the power car provides air for the braking system, the secondary suspension and the external sliding doors. Disc brakes are fitted, and are controlled by the Westcode<sup>(3)</sup> system, which provides three braking steps by de-energising the train wires in a coded sequence. Any interruptions of the train circuit, whether accidental or through operation of an emergency switch by a passenger, results in a full brake application.

The power car bogie is designated the BP20, and was specially designed for the Class 210. It weighs 11.2 U.K. tons complete. The primary suspension consists of Clouth rubber springs with hydraulic dampers, while the air sprung secondary suspension is controlled by levelling valves to ensure that the car floor is maintained

at a fixed height under all load conditions. Vertical damping is achieved by connecting each air spring to an auxiliary reservoir through a choke, while lateral movement is controlled by a single hydraulic damper. Body roll is controlled by torsion bars.

**Secondary air springs.** The trailer bogie is of the BT14 design, and is similar to those fitted to about 600 existing electric multiple-unit cars.

The secondary suspension is similar to that of the BP20, with secondary air springs, but the primary suspension consists of chevron rubber springs mounted above the axleboxes, for which trailing-arm registration is provided.

Poor heating and ventilation is a frequent criticism of earlier diesel multiple-unit designs, and so special care has been taken with these items on the Class 210.

Pressure ventilation and heating equipment is mounted above the ceiling at one end of each car. Fresh air is drawn from bodyside grilles at window height, while air for recirculation is taken from the saloon close to the equipment.

The air is distributed through the saloon by way of ceiling ducts.

Convector heaters are also provided under the seats. There are four operating modes for the system, and they are employed according to the ambient temperature in the saloon. Although there is an urgent need for replacement diesel multiple-units in Britain, current uncertainty over the future role of secondary and cross-country lines means that there will be ample time to prove the Class 210 in trial service before any series production begins.

Reports of test runs indicate that ride quality is good, and that intrusion of noise from the engine is much less than with current designs. Certainly, with a maximum speed of 90 mph, Class 210 performance comes close to the high level generally expected from its electric counterparts. (8D982/JS)

1. British Rail engineering Ltd, Railway Technical Centre, London Road, Derby DE2 8UP, England.

2. GEC Diesels Ltd, Vulcan Works, Newton-le-Willows, Merseyside WA2 8RU, England.


3. Brush Electrical Machines Ltd, P.O. Box 16, Falcon Works, Loughborough, Leicestershire, England.

4. GEC Traction Ltd, P.O. Box 104, Manchester M80 1HA, England.

5. Westinghouse Brake and Signal Company Ltd, P.O. Box 74, New Road, Chippenham, Wiltshire SN15 1HY, England.





SGIO · SHERATON  CEN



# New look for Brisbane's Central Station

The new central station will comprise four tracks initially serving two large island platforms with future provision being made for an additional two tracks serving another large island platform under the Sheraton Hotel area.

The additional tracks and platform will be required in conjunction with the proposed additional intercity tunnels required as rail patronage increases. From each island platform three escalators and a staircase will lead to a concourse above, on which level the railway station administration centre and ticket office will be located. Access to the concourse will be available from Ann Street, Edward Street, Creek Street and Wickham Terrace. One of the accesses from Ann Street will be by escalators and staircases in the vestibule of the historic present building which will be preserved, refurbished and remodelled to form a vital part of the Anzac Square precinct.

A lift will be provided from each island platform to the concourse especially designed to accommodate disabled persons.

The existing subway will be refurbished with new finishes to floor and wall and ceilings and will give access by new stairs to the vestibule of the old building and each island platform.

In conjunction with the Anzac Square redevelopment, a new subway under Ann Street will be constructed leading from the southern side of Anzac Square to escalators and stairs which will emerge at concourse level between the present railway centre and the original railway station building in Ann Street.

Architectural finishes of the new station building will be of world standard and appropriate to the Government's desire to provide the commuters of Brisbane with a modern innercity station to complement the surrounding city buildings.

Platforms, staircases and the floor of the concourse will be surfaced with vitrified tiles whilst walls and columns will be finished with glazed ceramic tiles.

The concourse ceiling will be a suspended system incorporating a timber batten style of ceiling tile selected for its noise control qualities and attractive aesthetic appearance. The ceilings above platforms will be of a high quality finish as with all other building components and will provide a high level of lighting at platform edges with a softer, more indirect lighting to other areas.

Special attention has been given to ventilation, with the ticket office and station offices being air-conditioned and the open areas of the concourse and platforms being relief cooled. A coffee lounge, news stall and other suitable shops will be located on concourse level for the convenience of rail users and will complement the hotel trading facilities and speciality shops in other parts of the development.

The total construction encompasses 27 levels at an estimated cost of \$66 million.

Of this amount the cost of the station works is expected to be in the order of \$11 million. It is expected that the new station will be completed in late 1983, and the Sheraton Hotel in mid 1984.





# Depressed Australian economy hit

As the Australian economy slides further into recession, curtailing production and consumer demand, latest estimates indicate that the SRA's revenue shortfall for 1982/83 has risen to more than \$120m since October, an increase of \$40m.

A spokesman for the SRA said that the latest figures make it even more crucial that all railway workers continue to support the cost-cutting programme introduced last October. He said there is still a long way to go, but the SRA's goal is achievable if there is no further industrial disruption.

The slump in SRA revenue took place with staggering rapidity, and illustrates the central place the railways occupy within the economy. A look through the areas where freight revenue has fallen is like reading a roll-call of industries which have been worst hit by the twin blows of recession and the lingering drought.

The problems in the steel industry, which have led to the retrenchment of thousands of workers throughout Australia, are reflected in the reduced tonnages now being moved by rail compared to last year. Interstate movement of iron and steel is down from 821,000 tonnes in 1981/82, to 486,000 tonnes, a drop of 41%. Movement in iron and steel inside NSW is 37% lower than in 1981/82.

Reduced demand for electricity and the downturn in steelmaking have contributed greatly to a 40% drop in revenue from local coal. Reduced activity in the steelworks has also contributed to a 29% drop in the rail haulage of limestone, a vital component in steel manufacture.

With money tight and unemployment growing, few people are willing to spend on new cars or household goods, and consequently, there has been a huge drop of 60% in rail haulage of cars, and a 47% drop in the haulage of retail goods, such as washing machines, refrigerators, etc.

The very depressed level of building

construction has cut the haulage of cement by 25%.

Added to all this, of course, is the devastating effect of the worst drought in a century, which ruined most of the NSW wheat crop. Haulage of wheat is, along with coal, a major source of revenue for the SRA. Originally, it was expected that \$105.2m would be earned from wheat, but the latest estimates have pruned the expected return to \$53.2m, a drop of \$52m. A host of other country freight categories have been similarly affected.

Growing unemployment has hit passenger revenue, with dramatic falls in the sales of workman's weekly tickets, particularly in Newcastle and Wollongong areas of NSW with the highest levels of unemployment.

As well, the reduced incomes of rural communities have made travel by rail for holidays something to be put off until better times.

Projected passenger revenue for 1982/83 is now expected to be down by \$20m. In October, the estimated shortfall was \$4m, and the worsening of the situation is a grim indicator of the enormous upsurge in unemployment which took place in the latter half of 1982.

"What these figures tell us is that the Australian economy has collapsed," the SRA spokesman said. "Our task in the railways is to ensure that the jobs of our employees are not put at risk."

The SRA is attacking the problem from two angles. Cost-cutting is one way, and seeking new business is the other. Already, nearly \$12 million in new business has been secured, and another \$64m is being vigorously pursued.

Although there has been a significant fall in the volume of freight between capital cities, whether by road, rail or air, market conditions are in favour of the railways.

Many of the smaller road operators will be forced out of business, and many

companies are beginning to see the cost-benefits of rail transport.

A typical case is BHP's decision to phase out its roll-on, roll-off sea transport operations between Pt Kembla, Melbourne and Adelaide, and transfer to rail. By further improving the speed and the reliability of rail freight services, the SRA will be able to take full advantage of such new opportunities.

In this context, the spokesman pointed out that industrial disputes can only harm the confidence of potential customers in the railways' ability to deliver the goods.

"But with co-operation, and trust, we can survive this economic crisis without losing jobs," he said.

State Rail Authority Chief Executive David Hill is visiting major SRA locations in metropolitan and country areas to up-date staff on the progress of cost cutting initiatives which were introduced last October.

So far SRA staff have been fortunate. Not one member of the 40,000 currently employed has been retrenched. This is very different to the situation in other major industries.

Mr Hill's main points in his talks are:

- Over the past few years the New South Wales Railways has been experiencing a revival.

In the past five years:  
 Passengers Up 20% +  
 Freight Tonnage 25% +  
 (Particularly Coal)

WHEAT



# Major source of SRA's rail revenue

PASSENGERS

- But in late 1982, the Australian Economy suffered a dramatic and sudden downturn.

Added to the drought, this caused massive losses of more than \$120 million in expected rail revenue for this financial year.

- Major areas of loss include (approximate latest estimates)

Wheat	\$52 million
Passengers	\$20 million
Export Coal	\$12 million
Domestic Coal	\$15 million
Iron and Steel (BHP)	\$10 million
Manufactured Goods	\$10 million
Freight forwarders/Other	\$5 million

COAL

- The SRA already requires annual Government subsidies of hundreds of millions of dollars. The Government has indicated additional funds are unavailable. Even with the end of the drought and recession, the gap between our revenue and expenditure is unacceptably high.

- SRA has two options:

(a) To wind back loss operations and retrench staff (This is being done by most major Australian industries).

(b) To introduce a cost cutting programme to preserve New South Wales Railways and save jobs.

IRON & STEEL

- So far, the SRA cost cutting programme is progressing remarkably well and:

\*Continued success will remove the threat of retrenchments.

\*Only a few major reforms remain to be introduced.

\*We will continue to be flexible on all proposals.

\*Only industrial disruption will now prevent the programme succeeding.

Mr Hill said that staff support so far received was appreciated and "we seek your continued assistance to meet our goals".



## Tenterfield tops in SRA garden 'titles'

Tenterfield Station in the far north of New South Wales has become the inaugural winner of the new SRA Garden Competition, which was reactivated in 1982 as part of the continuing programme to upgrade stations throughout the state.

The Garden Competition was last held in 1972. It was decided to hold it again after requests from a number of station staff.

Unfortunately, the reintroduction of the competition coincided with the worst drought in one hundred years.

This made it impossible for many stations to start gardens, and has made it difficult for those with gardens to keep them maintained. However, staff at Tenterfield managed to overcome these problems and created a colourful and varied garden.

For Max Cooper, Assistant Station Master at Tenterfield, the success is something he has wanted to achieve for 20 years.

Max does most of the work on the garden himself, with the help of Station Assistant Weir, several

guards, and a "loco fellow who does the lawns".

Max told Statewide that he would be sharing the \$100 prize with them.

The Tenterfield Station garden had a severe setback some time ago when Max went on holidays. No-one took the trouble to water it, and when he returned to work, his heart sank when he saw the shrivelled remains. But he set about reurrecting it, with the dedication and perseverance peculiar to committed gardeners, and now he has reaped the reward.

Perennials and shrubs make up the garden, because annuals require too much work. As it is, Max and his helpers can spend a couple of hours a day on the garden. Unlike most areas of the state, Tenterfield has no water restrictions in force, so the garden is well watered and lush.

The people of Tenterfield have supported Max's gardening efforts, donating shrubs and flowers. One man gave 20 shrubs.

"The garden's a bit of a tourist attraction around here," Max said proudly.

The judging was carried out by two Chief Gardeners, who began inspecting the 67 participating stations last October. After the preliminary inspections and evaluations, the judges then conferred to decide which station deserved the title of Best Garden.

### SECTIONAL WINNERS:

#### Section 1 — Metropolitan

1 Homebush, 2 Carlton, 3 Burwood.

#### Section 2 — Wollongong

1 Austinmer, 2 Thirroul, 3 Port Kembla — Inner Harbour.

#### Section 3 — Goulburn

1 Goulburn, 2 Berrima Junction, 3 Picton.

#### Section 4 — Junee

1 Culcairn, 2 The Rock, 3 Harefield.

#### Section 5 — Orange

1 Forbes, 2 Euabalong West, 3 Narromine.

#### Section 6 — Lithgow

1 Mudgee, 2 Hazelbrook, 3 Blayney.

#### Section 7 — Werris Creek

1 Tenterfield, 2 Uralla, 3 Armidale.

#### Section 8 — South Grafton

1 Mullumbimby.

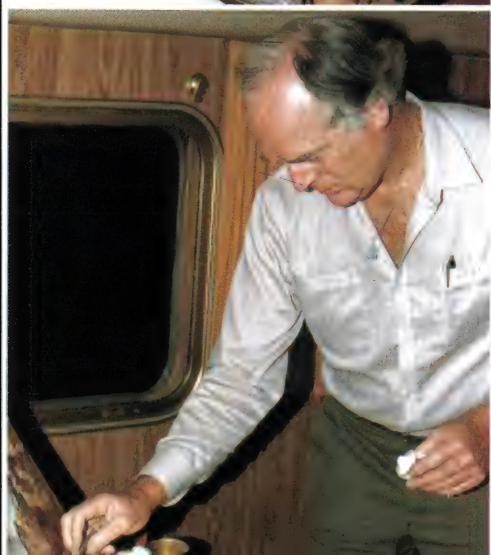
#### Section 9 — Newcastle

1 Awaba, 2 Fassifern, 3 Hamilton.





*Above clockwise: Ceremony on the Broken Hill Station platform, left to right, Broken Hill Railways Supervisor Hugh Schultz, John Pickup, Eric Minchin, Mayor of Broken Hill. Top: Eric Minchin explains to passengers Mr and Mrs Nash of Merrylands NSW the fine details of his painting. Hugh Schultz, Jack Absalom and John Pickup all make their contributions to the composite painting.*





# Bush Brushmen' join the Indian-Pacific

Passengers on the Indian-Pacific ex Sydney on 29 April were treated to a rare travel bonus when the train pulled out of Broken Hill: the company and talents of the "Brushmen of the Bush".

Broken Hill and the Brushmen are closely linked. All of them live there, resisting the lure of the big cities, preferring to live close to the source of their inspiration.

The brushmen, Pro Hart, Jack Absalom, Eric Minchin, Hugh Schulz and John Pickup, comprise what is Australia's best known and most popular school of artists. The school could be classified as "Outback Modern", and the Brushmen's paintings of the arid yet hauntingly beautiful landscape of the outback have generated much new interest in this forbidding and seemingly desolate part of Australia.

Many of the tourists who travel on the Indian-Pacific have had their expectations of what they will see whetted by the Brushmen's paintings.

For the lucky ones sharing the journey with them this time, it was an opportunity to watch them at work and judge for themselves how well their paintings capture the landscape.

It was also the chance to learn how to do it from the masters themselves. On the second day out of Broken Hill, the Lounge Car was packed with passengers eager to watch Jack Absalom and Eric Minchin as they set up their easels and began painting. In the course of that day each artist produced two complete paintings, and few passengers moved from their ring-side seats, totally absorbed as they were by this display of skill.

Two of these paintings were presented to an English passenger to take back home with her, and the other two were donated for a free raffle among the crew of the Indian-Pacific.

More was to come. On the Saturday night, all four artists combined to apply their brushes to a single canvas. This was only the second time in the history of the Brushmen that this has happened, and the result was an exceptional work of art.

The initiator of the trip was Jack Absalom. He's a true Australian original; almost a work of art in himself; as anyone who saw his television series "Absalom's Outback" will testify. When Jack gets an idea, he is not easily dissuaded.

His idea managed to combine two things he feels strongly about: charity and the Indian-Pacific. His admiration for the Indian-Pacific stems from the period when he was making the television series for the ABC.

Charity is a continuing commitment for all the Brushmen. They come together twice a year to do art shows for various charities, and since they began they have raised more than \$287,000. However, while living in Broken Hill has its advantages for them, it also has drawbacks which make it hard for them to fulfil their charity commitments. Like isolation.

"This year we're putting on a show in Perth", Jack explained, "and we thought that since we're doing this for charity, it's a bit hot for us to pay our fares from Broken Hill to Perth and back. So I approached the railways to see what we could work out."

Needless to say, the railways were delighted. It was agreed that each artist would donate a painting in return for the travel. The paintings would then go on permanent display in the Indian-Pacific's Lounge Car. Jack was happy. "This way it only costs us a painting."

Who knows, perhaps on board with them this time was a budding artist who in later years will be able to boast "I learned to paint on the Indian-Pacific".

A representative of the State Rail Authority of New South Wales, Mr Tom Hetherington, officially accepted a series of five paintings — from Pro Hart, Jack Absalom, Eric Minchin, Hugh Schulz and John Pickup. It is expected reproductions of the paintings will be part of the decor of all "Indian-Pacific" lounge cars in the future.

In accepting the paintings on behalf of Railways of Australia, Mr Hetherington announced that an

Indian-Pacific Club Car was to be named "The City of Broken Hill" in honour of the generosity of the "Brushmen of the Bush".

The Indian-Pacific now features all first class sleeping accommodation; railway booking offices and travel agents report considerable demand for reservations. Many packaged tours also include this famous Australian train.

Three "Indian-Pacific" services are scheduled each way in each direction — from Sydney on Mondays, Thursdays and Saturdays, and from Perth on Sundays, Tuesdays and Thursdays. The through journey takes approximately 65 hours.





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# 'Trainabout 83' says it all for Queensland travel

Representing some 50 organisations of travel agents "Trainabout 83" left Brisbane on Sunday March 6th and returned on Friday March 18th. The train containing 15 QLX type wagons of travel display was officially opened to the public at Roma Street

Station by the Minister for Transport, Mr Don Lane on Saturday March 19th, 1983.

"Trainabout" is the brainchild of the Australian Federation of Travel Agents, Queensland Division, who were encouraged to stage the mobile 'Expo'

when they heard of the success of the trade fair train organised by the Electrical Development Association of Queensland some 18 months ago. Speaking at the opening, Mr Lane said, "I don't think there can be a more rewarding role for Queensland Railways than to help take the visual message of services and products to the people of our state".

Mr Lane went on to describe the venture as one of the finest tourism promotions he had seen.

The Railways of Australia were featured in a display organised by Queensland Railways. It featured pictures showing some of the premier tourist trains of Australia (including our famous Sunlander of course) and some of the magnificent tourist attractions.

"Trainabout" visited Toowoomba, Maryborough, Bundaberg, Gladstone, Emerald, Rockhampton, Townsville and Cairns.



QR Commissioner Mr Doug Mendoza with Minister for Transport Mr Don Lane inspecting Railways of Australia display on "Trainabout 83"

## Simulator shows how for heavy ore trains

A train driving simulator, developed for the iron-ore railways in the North West of Western Australia is being studied by both Commonwealth and State rail authorities.

The simulator, the TDS-1000, has been developed by ACE-T Pty Ltd, of Perth, in conjunction with Hamersley Iron and Mount Newman Mining companies, following extensive research into longitudinal train behaviour. Based on the Hewlett-Packard HP1000 mini-computer, the simulator has made a significant impact on handling problems in the heavy ore trains.

Problem areas have been isolated and new driver strategies formulated, with a resultant significant decrease in the incidence of draftgear failures. Dr J. R. Blair, of ACE-T Pty Ltd, said initial research on the simulator began at the University of WA in 1972 when he was lecturer in mechanical engineering.

He said the simulator provided train drivers with hitherto unknown information on the behaviour of the trains they handled — weighing up to 25,000 tonnes and up to two kilometres in length.

The information gained gave the drivers more scope to interpret the actions of the trains and manipulate the controls to avoid the development of destructive forces within the train. This led to a reduction of train breakage and coupler damage.

Other benefits were faster running times and lower fuel consumption. Dr Blair said the simulator comprised a

driver's control console from an ALCO 3600HP diesel locomotive, with actual brake and throttle levers. This was connected to an HP1000 computer with 256K byte memory and associated peripherals which was programmed with the software necessary to run the system.

A video monitor in front of the driver displays in real time a schematic representation of the train travelling up and down the grades of the track at accurate speeds. It displays the curves and straight sections of the track as well as signal locations.

Dr Blair said that most importantly, the monitor showed the coupler forces — comprehensive or tensile — throughout the train.

Complete track geometry data was stored on disc, as was information on locomotive and ore car parameters — tractive effort, braking characteristics, rolling resistance, etc.

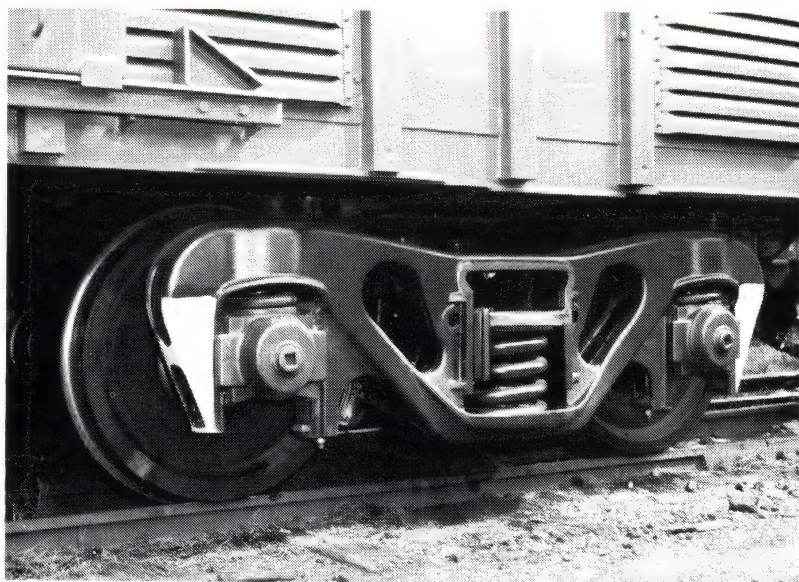
"The heart of the software is an accurate mathematical model of the locomotive and ore cars, whose output is used to generate displays for the video monitor and the driver's console," Dr Blair said.



A locomotive driving instructor, Eric Girdlee (right) at Hamersley Iron Pty Ltd watches the video monitor to check the progress of a "train" trip simulated by driver, Billy Weeding, on the TDS-100



# SPRINGS FOR RAILWAY ROLLING STOCK.



*Fast freight bogie with Pioneer Springs and Wear Plates  
as supplied to the New South Wales Public Transport Commission.*



Pioneer supplies springs and wear plates for the fast freight bogies and locomotive suspension units that are used to transport goods and passengers over mainline tracks at speeds up to 125 km/hr. Pioneer's reputation for reliability has spread all over the world. Transport engineers everywhere rely on the consistent high quality of Pioneer springs for suspension units.

## PIONEER SPRING COMPANY



*The Southern Aurora, Sydney-Melbourne Express,  
fitted with springs supplied by Pioneer.*

PN023.FP





**Q**ueensland Railways has registered another "first" with the commissioning of a \$700,000 Rail Planing machine. Known officially as the "Rail Head Re-Profiling Machine", it is not only a rarity in Australia. In the world there are only five other known models of its kind. The function of the machine is to restore worn rail to its original state or change the angle of the surface by planing with tungsten blades. The machine operates at a speed of four kilometres an hour and makes a total of seven passes over a section of track during the re-profiling operation. It is capable of completing 1 km of track each day. The length of the machine is 24 metres and it weighs 75 tonnes. Designed in Austria, it will be used on duplicating and upgrading the Goonyella-Hay Point Line. The performance of the machine will be closely looked at by other rail systems of Australia, so far as its future possible introduction in those systems is concerned.

## MAJOR SHAKE-UP FOR QR

Queensland Railways management is being restructured in the first step towards putting the \$600 million industry on a better commercial basis. The shake-up involves the appointment of two new assistant commissioners, to introduce a new management style that can implement effective reform within a reasonable time.

The changes were approved by State Cabinet after the Transport Minister, Mr Lane, presented the first report of a private consultant's investigation into his department.

PA Consultants will follow up this report on management structure with recommendations about industrial relations, workshop productivity and transport economics.

These later reports, are expected to recommend radical changes to long-standing policies that now cost taxpayers about \$150 million a year because of the department's deficit. Mr Lane said the managerial changes were the first step in his campaign to make his department more cost effective, as taxpayers should not be expected to carry the financial burden any longer.

"As for the 25,000 employees, I have been trying to explain to them since I took up this portfolio that they have a vested interest in being part of a modern up-to-date system".

Mr Lane said Cabinet had accepted PA's recommendation that the functions of the department be broken into three broad areas — technical services, operations and administrative services.

This would mean abolition of the position of assistant commissioner (electrification) and assistant commissioner (operations).

The deputy commissioner would remain in charge of administrative services.

This would allow the commissioner, Mr D. Mendoza, recently appointed for five years, to concentrate on major issues highlighted by the investigation rather than day-to-day management. In its report, PA Consultants, hired in September last year as part of Mr Lane's plan to revamp the railways and his initiatives already taken to improve the Transport Department, made it clear the new positions should be filled from outside the department.

"This will give the opportunity to introduce new blood from outside at senior level," the report said. "It will help create a new team around the commissioner, collectively able to give the department new leadership."

Mr Lane said he realised Cabinet's acceptance of the recommendation meant the Government would be interfering with the railways "pecking order" that had been in existence for

50 years.

"But we have to move with the times. Seniority is not the best way to recruit efficient managers.

"Men who have experience in the commercial world obviously have something to offer the railways.

### Photographic competition

Railways of Australia, which is an association of the five government-owned Railway Systems, has offered first class rail travel anywhere in Australia as the prize in an annual photographic competition.

The competition is open to all full time students of photography, and to those who have just completed a course.

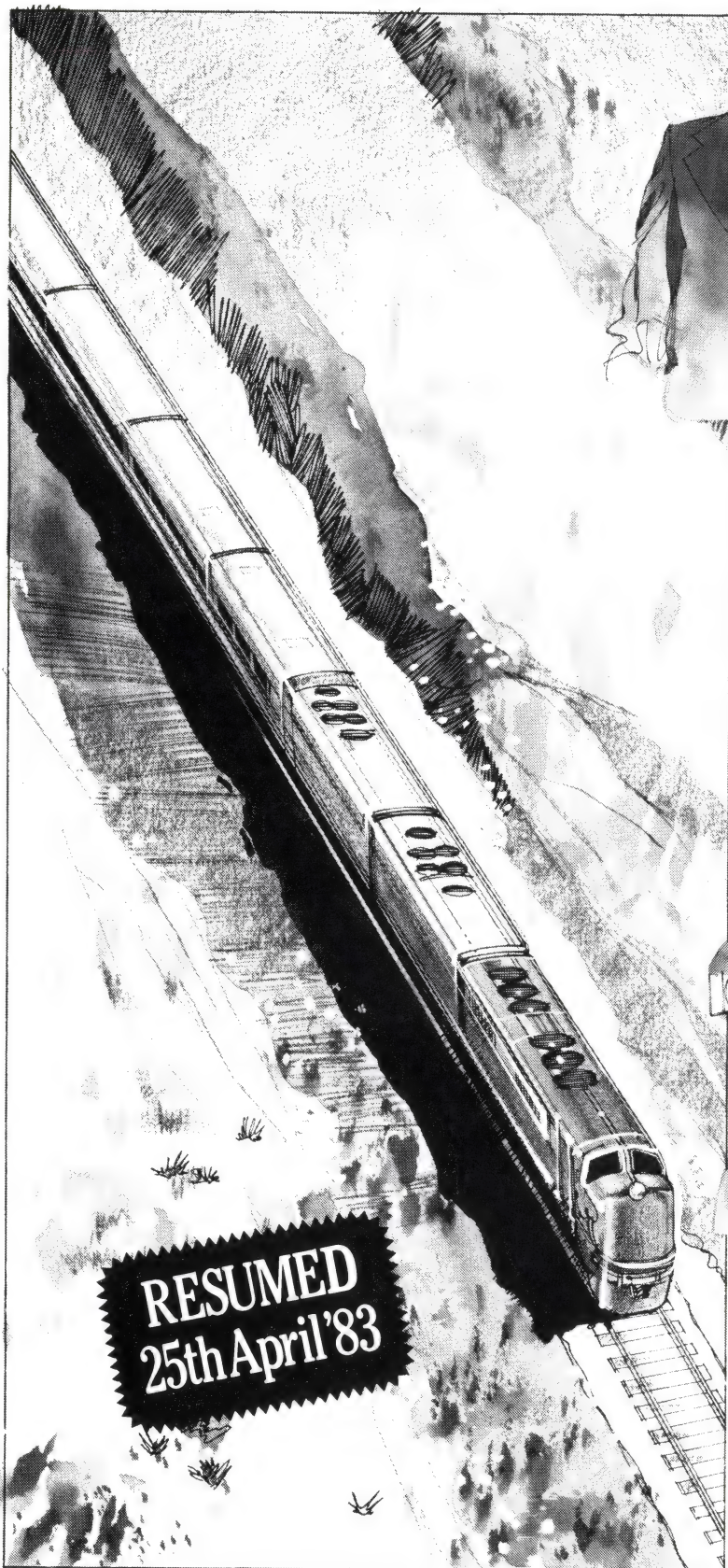
Entries, which close on January 31 of each year, should consist of a colour print of A4 size in a vertical format; the subject matter need not obviously be connected with Railways, but should be suitable for use on the front cover of the Railways of Australia magazine "Network".

Further information is available from the Railways of Australia Committee, 6th Floor, 325 Collins Street, Melbourne, (Tel: (03) 61 2545)

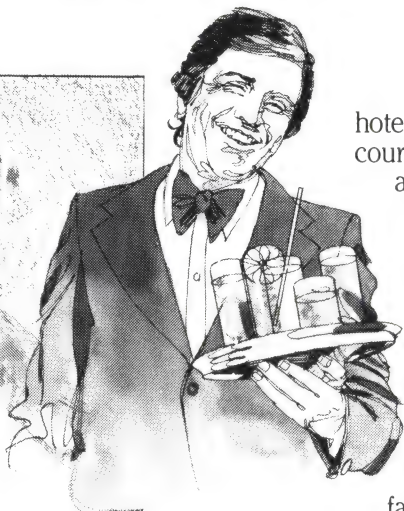


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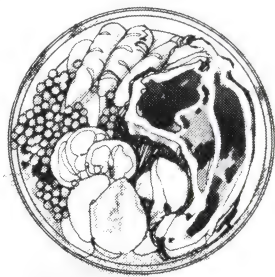
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# TOTAL WEST A WINNER IN WA

WA, having escaped the severe brunt of the recession and drought, (albeit with freight volumes down) has shown what can be done with private enterprise and the state railways getting their act together. Together with deregulation of rail freight to the south-west ten months ago, the setting up of total Western Transport Services Pty Ltd by Mayne Nickless and WestRail has seen substantial savings for retailers, hoteliers and major customers. Strong competition among hauliers has meant that all but some "small" freight has dropped in price. A spokesman for a major transport group told the Transport letter: "The extra business for a number of large and some small freight forwarders and transport companies has been reasonable to good."

All states are closely watching the progress of the ten-month-old Total West project in WA. A major retail group spokesman in Perth told The Transport Letter: "There were big teething problems in the first few months, but now it has settled down. Major companies are cutting costs by 40%; for some it could be as high as 60%." Total Western Transport Pty Ltd is a 50-50 venture of WestRail and Mayne Nickless. Although figures are not revealed, Total West has by far the largest share of business. Although most unlikely in its first year, Total West could see a profit in its second year. What is significant is that VicRail gives no special deals to the new company.

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What Total West offers is transport service management and it has the business of Coles, Woolworths, Foodlands, Swan Brewery and others. There are probably 200,000 tonnes of small freight business in WA and Total West has most of it. Bell Freightlines which was short-listed for the joint venture will be vitally interested in the first year result and disappointed not to have been chosen. Nevertheless, Bell and other major transport companies in WA are said to have picked up extra business when the WA Government deregulated transport to the south-west on the same day that Total West began operations, July 1. This meant that road operators could compete with rail for the first time.

The WA Liberal Government realised there would be problems for Total West starting on the same day as deregulation (uncertainty over freight volumes etc), but wanted to be fair to other operators. One big surprise is that despite deregulation, Total West's business is moved 80% by rail. Total West marketing manager, **Ray Tilley** who with other senior executives, was seconded from Mayne Nickless to get the new company on its feet told The Transport Letter that Total West should be really on its feet after the first year.

"There was a lot of crystal gazing initially and for 2-3 months there were problems. Quite simply situations arose you couldn't predict. In the last few months business has settled down as far as services and routes go," he said.

## Retailers slash distribution costs after deregulation: More business for transport companies.

Coles, the major retailer, has made significant distribution cost-savings in WA as a direct result of deregulation of the state's rail system, seven months ago. Although the company is not giving away figures, state transport manager, **Dennis Robinson**, says savings have been through tougher competition and less handling. These have been passed on in prices in country stores, making Coles more competitive. When retailers were restricted to rail it meant handling the freight several times: loading on flat tops to be taken to rail centre, unloaded and loaded on to rail wagons, unloaded at depots, loaded onto vehicles at the rail depots and then unloaded at the stores. Now, with Total West providing Coles with its own captive fleet, freight is loaded onto vehicles at one end and unloaded at the store at the other. Robinson says this improves delivery times, reduces stock that has to be held in stores, keeps damage to a minimum and virtually eliminates pilferage.

The new arrangements means Coles, which has stepped up ownership of liquor stores in WA, can also warehouse beer supplies and better load its vehicles. Robinson said: "We have always operated as efficiently as we can. But when deregulation came in, it put improvements far beyond our expectations."

From its central Canningvale warehouse Coles is believed to move about 3,800 pallets a week. Coles has taken over 8 Target stores, which have now become Coles New World stores. Coles added two 12 pallet capacity vehicles to its fleet, because of the Target takeover and mopped up extra transport capacities within the group. Coles has its distribution centre at Canningvale (11 acres under cover) with major warehouses at Palmyr (Roberts Snap Frozen) and Spearwood (P and O Cold Storage).

**The attractions of Total West.** Major customers of Total West have several major advantages. Their transport operations are managed for them, their own "Captive" fleets are provided, maintenance is arranged, costs are monitored and industrial relations is handled for them.

## Westrail orders new railcars

A. Goninan & Co. Limited has been awarded a new contract worth about \$9 million by Western Australian Government Railways.

The contract, is for the design and manufacture of five diesel hydraulic railcars and five trailer cars for the Perth suburban rail system.

This is the second contract Goninan has been awarded by the Western Australian Government, and it is regarded as an indication of confidence in Goninan manufacturing ability. The first contract, awarded in 1979, was for 10 diesel-hydraulic rail-cars and was Goninan's first venture into diesel railcars. These vehicles have served successfully on the Perth metropolitan network for more than two years. The new WA railcars will operate as twin car sets, each comprising one power car and one driving trailer car.

They can operate in mixed sets with the previously delivered railcars.

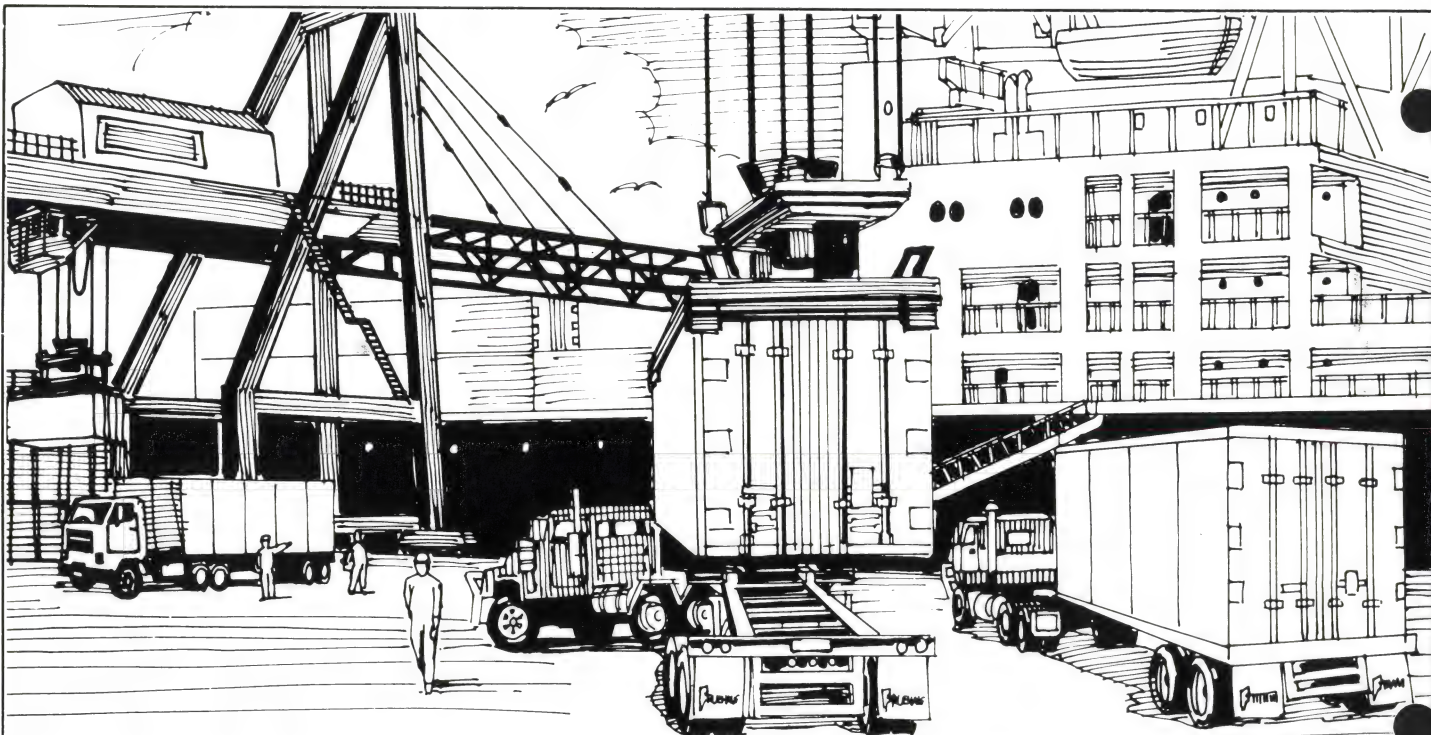
Each set is fitted with Cummins diesel traction engines, Voith turbo transmission and drive, and with Sigma air-conditioning units.

The cars are of stainless steel construction and of a semi-monocoque design using flat and fluted panels of stainless steel. The leading ends are moulded in fibreglass and formed to match the bodywork. The concept maximises strength while minimising weight.

The single deck railcars are designed by A. Goninan & Co. Limited with technical assistance from Pullman Standard, USA.

Manufacture will take place in Goninan's specialised workshops at Broadmeadow, Newcastle (NSW).





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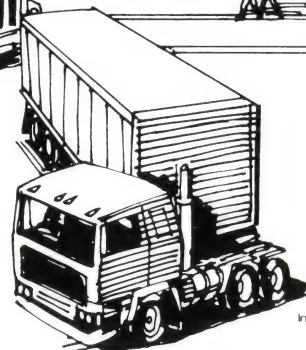


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## Working to 'legally required' national specifications

Government departments throughout Australia are making increasing use of Australian standards as a means of specifying technical requirements in legislation.

A natural consequence of this is the need by more and more people to not only determine the existence of a particular standard but to know whether or not they have a legal obligation to comply with it in the course of their business.

Considering that there are currently in excess of 3000 published Australian standards, and bearing in mind this country's Federal system of government with Commonwealth, State and Territory governments each promulgating large numbers of items of legislation, it would be a daunting

task for anyone to ascertain compliance requirements.

Recognising this need, the Standards Association of Australia has published a handbook, HB4—Register of Australian Standards Referenced in Legislation, which identifies the 110 standards which are referred to in legislation, be it Commonwealth, State or Territorial, and records the legal nature of the reference.

SAA anticipates that the publication of this register will be widely welcomed by overseas trade commissions, foreign consulates, importers, manufacturers, the legal profession and the insurance industry amongst many others. Its existence should also enable State governments to compare their reliance upon

Australian standards with their counterpart departments in other States, and may eventually result in greater legislative uniformity amongst the States.

SAA is aware that legislation is constantly changing and consequently, references to standards may also be subject to amendment from time to time. In the light of this, such changes will be monitored and, if necessary, updated editions of HB4 will be published, perhaps on an annual basis.

Copies of HB4 can be purchased from any SAA office at a cost of \$30 plus a \$3.50 postal and handling charge.

Media Enquiries: Jack Moncrieff  
Telephone (02) 929 6022  
or any State office.

## It's all a load of old rubbish

Garbage disposal is a problem we all face once, or maybe twice a week. The solution to it is fairly simple—wrap it up and leave it in the rubbish bin for collection by local garbage collection men.

A solution for the railways is not so simple.

VicRail, for instance, is lumped with three tonnes of rubbish daily—all of it left behind by thoughtless, or just plain untidy, commuters. Cost of its disposal is close to \$3 million a year.

Rubbish left behind includes empty soft drink bottles and cartons, half-eaten food, discarded newspapers and cigarette butts.

Vicrail employs a staff of 172 cleaners to help control this barrage. A fleet of 150 suburban trains poses the biggest headache.

Assault on these starts with night shift cleaners who sweep out litter, wipe down seats and dust other surfaces preparatory to them going out next day. Heavier programme sees a big team of day workers repeat that process at the Jolimont Yards during peak periods the following day.

Meanwhile, Workshops crews 'deep clean' other carriages with detergents, vacuuming and spot cleaning carpeted cars and scrubbing down vinyl floors.

Every three weeks cars are given an external wash, again with detergents. Every three months carriages are subjected to an intensive internal

cleaning operation with steam cleaning of carpeted floors and hot solvent washing of all hard surfaces, such as walls, ceilings, light fittings and floors. Inservice cleaning is also carried out by a team of 24 women cleaners operating out of suburban stations. Man in charge of this mammoth operation, Metropolitan Train Maintenance Manager, Mr Len Waters, terms it 'labour intensive'. He said a recent outside study found that the maintenance and cleaning section was 'starved for manpower and supervision'.

Carpeted trains were found to require

far more attention, with carpets needing to be recycled every three months.

Mr Waters said that it takes one and a half days to fully clean a carpeted train. He said: "Labour accounts for most of our \$3 million cleaning bill, but more than \$800,000 goes on soaps, detergents and other cleaning materials.

Likely plans for the future include a proposal that carriage maintenance and cleaning be carried out at suburban locations, that greater use be made of shower jet cleaning, and that it be a round-the-clock operation.

## What's in good management?

*A new book, entitled How to Manage (Heinemann, London) allows sportsmen, playwrights and politicians to give their views on the art of management.*

*The 260-page book was conceived, compiled and edited by Professor Ray Wild, of Brunel University and Henley Management College, both in Britain. Here are words of wisdom from a few of the 123 contributors:*

*"Today's manager must relearn his thinking, making it more fundamental and more political. He must start from the premise that the market economy brings him not only rights but also duties and responsibilities." — Dr L. V. Planta, chairman and managing director, Ciba-Geigy AG.*

\* \* \*

*"The person who never makes a mistake works for someone who does." — Sir Hector Laing, chairman, United Biscuits.*

*"Keep it small, keep it flexible, delegate, make snap decisions over important matters, procrastinate over unimportant matters, admit your mistakes, do one thing at a time, be generous with your talent, disregard the lessons of history, switch off occasionally." — Alan Ayckbourn, playwright.*

\* \* \*

*"The essence of management is decision making. The essence of decision making is knowledge and understanding. The essence of knowledge and understanding is homework." — R. D. Muldoon, Prime Minister, New Zealand.*

\* \* \*

*"If there is no longer a compulsion to work, it must be replaced by an inclination to work." — Peter J. Prior, chairman, H. P. Bulmer Holdings.*



## An alternative route north?

179 Waterloo Street,  
Cleveland 4163  
14 January, 1983

Dear Sir,  
I would like the opportunity of  
commenting on two apparently  
unrelated articles in December  
'Network'.

Mr Des Smith's article on the North  
coast and the

the rails a renewable item, so why was  
the opportunity lost.

Started immediately after the opening  
of the new line, it would almost be  
running now. We didn't need new  
rolling stock, we had it already.

No one in the south except the Defence  
Department had the slightest interest. It  
was only 3'6" gauge. I hope  
Mr Van der Bosch has changed the  
view.

For example, NSW changed from flat  
rail to canted rail so there is a wealth  
of information there. If you don't ask for  
help you won't get it.

The road transport people can make a  
lot of noise, but there are some half  
million people depending on the  
Railways of Australia, so let's hear from  
them.

Eric W. Wood

## No criticism of 1067mm potential intended

By Ian McFarlane

In reply to Mr Eric Wood, I did not  
criticise the exposition of the full  
potential of the 1,067mm Cape gauge  
by Mr Van der Bosch. While pointing  
out why economics and the legacies of  
the past will probably delay and inhibit  
our Queensland Railways friends from  
achieving that full potential, my letter  
supported our Dutch colleague.  
Nor do I object to any moves that will  
upgrade Australia's Cape gauge  
railways towards their full potential;  
that gauge is there, already doing a first  
class job, and well able to do a bigger  
job even better.

But when we talk of extending the  
1,067 mm system into new territory we  
also need to bear in mind, always and  
even in the heart of the Queensland  
System, that Australia is one nation,  
that the national gauge standard is  
1,435 mm (even though it almost  
became the Irish 1,600 mm) and that  
many elements of the 1,067 mm  
systems are already of national (ie,  
intersystem) significance, with even  
greater potential to become more  
significant in the future.

Examples include in Queensland, the  
Sunshine Route Brisbane-Cairns, the  
Mt Isa line (which, incidentally, Sir  
Robert Menzies offered to convert to  
1,435 mm when it was upgraded some  
two decades ago) and the proposed  
new high capacity coal link from the  
Darling Downs to the South East  
Queensland coast, which has great  
potential as part of a strategic, inland,  
high capacity bypass of the tight  
clearance New South Wales North  
Coast line, a link vulnerable to  
interdiction by a future enemy.  
Other such 1,067 mm gauge links also  
exist in Western Australia, eg, the  
Perth-South West main line and  
existing narrow gauge elements of a

future link to the Pilbara (a resources-  
rich prize for any aggressor, on a  
strategically sensitive ocean).  
Thinking as an Australian and not as a  
citizen of a State, I would like my  
country and her future railways to have  
the best of both worlds on these key  
links by starting right now to replace  
every worn out, short, narrow gauge  
sleeper with a longer dual gauge  
sleeper, a la Westrail Avon Valley line,  
at a marginal extra cost of around  
10-15 per cent of upgrading the track  
concerned, such a cost augment being  
to the Commonwealth's account.

Such a move would quite literally lay  
the foundations of a more relevant  
future national network, and would  
greatly stimulate the complementary  
but less expensive tasks of laying the  
third rails bridge upgrading and  
opening-up of clearances for the final  
stage of making the link suitable for  
1,435 mm gauge trains of at least  
ANZR interim (ie, New South Wales  
sized) body dimensions.  
The clearance obstacles are not as  
immutable as people tend to think;  
intermodal termini do not need to be in  
the heart of existing electrified territory,  
buried under low overhead  
electrification wires.

While our 'land bridge' type  
intersystem rail links are in both  
commercial and defence/strategic  
terms reasonably well positioned west  
of Parkes (New South Wales) and north  
of Adelaide, Australians should realise  
that this is **not** the case throughout  
eastern Australia as a whole.  
It is not only that tight vertical  
clearances prevent application of the  
highly successful North  
American/Australian National/Westrail  
piggyback concept, which has the  
outstanding advantage of carrying the

competitor who has taken the traffic  
from you, as well as developing new  
railway business and saving fuel.  
In the East difficult alignments laid  
down a century ago with 1 in 40 and 1  
in 50 ruling grades, and curves that pull  
freight train speeds down to 70 km/h  
(often at the foot of a grade, where  
their impact is worsened) exert a very  
high penalty in terms of trip time, on rail  
competitiveness and operating cost.  
Extra locomotive units are needed to  
overcome these obstacles (after a  
fashion) by brute force. Today, each  
one costs nearly 40 cents per minute  
simply to own, and around \$1.50 per  
km to maintain; the fuel burn per  
trailing t-km for a New South Wales  
diesel on the hilly Sydney-Juneee run is  
over double that of Australian National,  
solely because of terrain. Sections like  
the Australian National's ex-SAR  
Adelaide Hills line, the Vicrail link via  
Bacchus Marsh, the short ruling grades  
southbound from Juneee, New South  
Wales and down to the Murrumbidgee  
bridge at Wagga Wagga, and the entire  
Juneee/Goulburn section are  
thoroughly bad news to intersystem rail  
today, and represent a major threat to  
its operating viability tomorrow.

The same applies to much of the New  
South Wales North Coast line, and to  
several key sections where the  
Queensland Railways Sunshine Route  
crosses the low ridges between the  
coastal river systems.  
While the three electrified areas  
present well-nigh insuperable  
bottlenecks to through-running high  
piggyback or 'volume-van' sized  
container trains, it is nonetheless  
entirely possible, at a sensible cost, to  
open up clearances in at least the  
heavy traffic triangle Adelaide/  
Melbourne (Campbellfield)/Sydney



(Campbelltown) with a piggyback route through the southern highlands of New South Wales and, via Junee/Roto, to the west and the north of Australia. Nor is piggyback impossible on 1,067 mm; the old Birdum/Darwin line carried such traffic, despite truly awful track condition.

In commercial and strategic terms, such matters are far more important to the future of intersystem rail freight in Australia than the colours of the lines on the existing ROA map, which mask many major weaknesses or, with great respect to a great railwayman, then well-intentioned attempts to develop the national system to the blueprint envisaged by Sir Harold Clapp some 40 years ago, when the line-haul trucking industry and the national roads program simply did not exist.

Railwaymen and their supporters also need to realise, when planning for AD 2,000 and beyond, that the road competitor is being given a Bi-centennial National Roads network (for which, incidentally, the railways are helping to pay through the levy on distillate fuel).

It will permit him to operate his 38 tonne rig carrying up to 25 tonnes payload, or less dense loads in full 'volume van' dimensions (with which ISO or RACE containers cannot possibly compete) at sustained speeds up to 115 km/h.

It will permit reduced costs and universal trip average speeds of typically 75-80 km/h, door-to-door and under the personal accountability of the driver.

True, rail can claim greater fuel and operating efficiency, even with our existing alignments, but as fuel gets scarcer and/or dearer, rail should also expect an increasingly deregulated trucking industry to lobby for bigger trucks and double-bottomed rigs.

Because it is well organised, the trucking industry is likely to win at least some of these things. Outback truckies already operate road trains, and Australian National, as the Federal Government's own 'state' railway, has a substantial piggyback capability already. Financially Canberra has little to lose. The States have, both in terms of rail revenue and road repairs.

In the face of these existing and future threats to rail's intersystem business, we are not only operating our trains fitted with 80 and 100 km/h bogies over 19th century routes, behind more and yet more powerful diesel locomotives at great cost, but we have no concerted, broadly based effective lobbying effort as an industry at the

national level to put these anomalies right.

True, we have a \$70M National rail upgrading program — but \$14m per annum spread over five Systems will buy the average equivalent of just two diesels or five km of new track on each System annually. The competition has \$500M of Bi-centennial roads money per annum, at least to 1988 and in all probability, beyond that.

In a situation where every national road is engineered and funded to standards dictated by the heaviest truck, it would, in my view, be very unwise to construct any major new 'landbridge' railway to other than 1,435 mm standards, with an 18 tonne axles roadbed and clearances able to handle full sized and preferably piggyback sized trains at 115 km/h.

Additionally, and with some nine years experience as a transportation intelligence officer and logistics analyst in the Defence Department, I can personally reassure your readers that the last thing the professional military logistician who is tasked with rapid deployment or re-supply wants to have is a break of gauge between his base area and the field force.

The second last is restricted axleload (and thus wagon loading) or speed (and thus cycle time) simply because a long critical section in the chain has weak track. The third last is a restricted loading gauge that forces diversion or partial dismantling of some loads, and possible splitting of the units (troops) who accompany them.

These things applied when General Sherman marched into the Confederacy in 1865 and finally won the Civil War by, in his own words, "getting there fastest with the mostest". They applied in both World Wars. They applied yet again in Vietnam, when the North Vietnamese standard gauged the China/Hanoi link, and kept their railways working — after a fashion, but in military terms working nonetheless — in the face of the heaviest bombing offensive ever known.

In my view, therefore, there's no doubt about the strategic planning goal we should set ourselves, as a nation, in respect of our intersystem rail freight network for the next century.

It should be nothing less than the ability to operate piggyback sized 1,435 mm gauge trains between efficient intermodal termini in all our key cities, over a network of key links stretching from the Pilbara and the south west of Western Australia, to Darwin and Townsville.

Then we can infill the Mt Isa/Darwin section. Sure, such a system will cost money, but commercially what is the price of modal survival in an increasingly competitive transport world? And in defence terms, national survival, in a wider one that is increasingly uncertain?

Dear Sir,

Thank you for yours of January 17, accompanying a copy of Mr E. Wood's letter of January 14, on which you invited my comment.

If Mr Wood has travelled the Australian continent for seventy years, he must have considerable knowledge of the land and its people. Although on one minor point I have some doubt, I feel Mr Wood's suggestions deserve further examination.

Let me start with Mr Wood's final remark: "(...) there are some 1/2 million people depending on the Railways of Australia, so let us hear from them". Whether or not the Railways of Australia do have sufficient patronage to cater for, ie, to depend on, at the present time, it is beyond doubt that Australia will need additional railways.

These must however not be conceived the day the need for them begins to be acutely felt, for it may then be too late in many respects. Areas left to themselves usually develop in a random manner, which ultimately leads to stagnation, congestion and general inefficiency. One need not be an advocate of a strictly planned economy to recognise that no sound development can be achieved without at least some degree of intelligent planning. Railways are like irrigation canals; they may carry the waters of civilisation to where there is now desert, but to do so they have to be constructed.

However, if rail is to get the green light it deserves more often, considerably more consciousness of its potential contribution to society will be needed, as well as the political climate to implement it.

This brings up the need for effective co-operation on a continental basis. Compared with Europe, Australia has two valuable advantages in this respect: the absence of language barriers and its more or less virgin state.

There is still space to move and space to think. About everything has to be built, conceived or even invented.

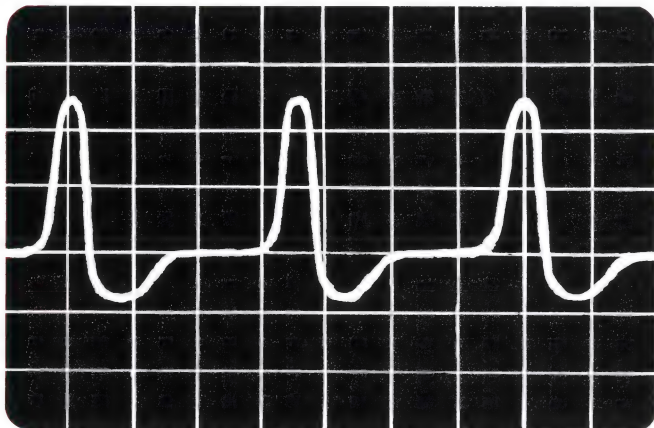
I do not intend to say that nothing has been achieved, but rather that there is still ample scope for development. But let me return to Mr Wood's letter.

Mr Wood visualises a refinery at Darwin, processing NW Cape and Indonesian

continued on page 58



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## The Eurailpass — Part Two

continued from page 31

The attendant then produced a wicker basket containing a large glass jar of the local fresh rose wine of the north. Very refreshing. They filled my glass. It was quite a party. Wishing to reciprocate I sought in my baggage and came up with a bottle of Spanish brandy and an Alto Duoro port. They chose the port. "What a pity", I said after several more glasses all round, "that the driver has to miss out", showing off my few words of Spanish and trying to be jocular. "Oh no", said the Conductor, whose English made up for the deficiencies in my Spanish, "this is the driver", and he introduced the man on my left.

They were able to calm me down before I ran screaming for the escape hatch by explaining that in fact there were two drivers, in fact two whole train crews, because of the length of the journey. (The other one joined us later in the buffet).

It was a memorable journey because I spent an hour or so later in the driver's compartment, watching the track unfurl before us, the dream-come-true of every schoolboy of my day.

Altogether it was the kind of thing that could only happen in Spain, where the natural friendliness of the people is so curiously at variance with the harsh extremes of their political activities.

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Colin J. Taylor



# National Transport Symposium



By C. J. Dennett,  
Executive Director,  
The Chartered Institute of  
Transport in Australia

The 4th National Transport Symposium sponsored by the Chartered Institute of Transport in Australia was held at the Wrest Point Casino in Hobart between 6-8th April.

A top line-up of speakers updated delegates' appreciation of regulation and deregulation as it applies to all modes of transport. This subject matter has been with us a long time and will be relevant well into the future.

The Federal Minister for Transport, Mr Peter Morris, in delivering the opening address, described the theme as both perceptive and timely. In his address Mr Morris posed the question "why do we regulate?". The answer, he said, was that regulation is fundamental to a democratic society — to enable individuals to exercise freedom of choice.

Mr Morris said that in the process of exercising that choice there may be impact on the interests of others. Regulation, therefore, is often necessary to protect those interests.

Mr Morris spoke of the broad framework of regulation:

- who or what is to be protected and against what;
- at what cost and who is to pay.

In developing policies, advice is required from the users, the providers and the regulators of transport services.

It was indeed appropriate that the views of the new Labour Government be enunciated on the theme of the symposium. As part of the Federal Government's transport objectives it is expected that the Inter-State Commission will become a reality. The purpose of that body will be to "flesh out" all the facts when it examines and comments on interstate transport problems.

Needless to say one cannot proceed very far to consider such problems without bearing in mind S92 of the Australian Constitution.

I commend Mr Justice Everett's paper ("Legal Issues in Regulation and De-regulation")\* for what he had to say on this subject and for his impelling reasons for advocating the abolishment of S92. The results would be, according to Mr Justice Everett that the responsibility for what really are political and/or economic decisions would rest with governments, rather than the High Court.

Everett J. went on, however, to warn of the dangers of over-regulation.

In summary, the 4th National Transport Symposium provided a further chapter in the developments concerning regulation and de-regulation.

The programme represented a response to market place claims of too much regulation in some area, and inadequate regulation in others. It also provided an insight into overseas experience and its possible application in Australia.

C. J. DENNETT  
Executive Director,  
The Chartered Institute of  
Transport in Australia

\*Mr Justice M. G. Everett, QC., Judge,  
Supreme Court, Tasmania.



C. J. Dennett

IT HAPPENED IN  
HOBART



IT HAPPENED IN  
HOBART

# Has there ever been a

Has there ever been a subject so well and truly discussed and debated as the theme of this symposium?

Regulation and deregulation has not only been the key note subject to more conferences, seminars and symposia than any other subject I could nominate, but in more recent years it has also been the basis for a number of public enquiries that have been initiated by Government, both State and Federal, as a sop to an angry segment of the road transport industry.

It seems to me too that I've been both talking or writing about transport regulation for years and though my views have tended to mellow over time I'm afraid I have become more than a little cynical about the whole subject. I find it difficult not to question the true motives behind the opinions expressed by people with varying transport interests, for regardless of transport mode the operator's point of view will be coloured by:

The Academic	Personal or corporate gain
The Politician	Personal acclaim
The Journalist	Political mileage
	Sensationalism

The word itself is ambiguous and means so many things to so many people.

Going back over the past to 1954 I well remember being offended when as a result of the Privy Council's decision in the Hughes and Vale Case, it was suggested that road transport had been deregulated — and yet as operators we still couldn't load as much as we wanted nor could we drive for as long as we chose, our drivers' log books had to be kept up to date and so on.

I'm afraid that in my young mind we were far from being deregulated — because regulation to me was what directly affected me and in this regard one could only say "as it was in the beginning".

When I was invited to join this panel it was suggested that I might make reference in my address to:

- the roles of road and rail
- the need for regulatory protection of rail, and of
- common carrier obligations

I will touch on each of those points, but firstly as to the role of the modes I can only repeat a short philosophical phrase that I've managed to slip into most of my papers and indeed I was delighted to hear it quoted by a prominent Federal Politician while he was on the campaign trail.

Simply it states: "Ideally each of the transport modes Road, Rail, Sea and Air should carry on the role for which they are technically, economically and socially suited."

It seems to me that as a mental exercise we have difficulty in separating regulation and deregulation from competition and the perceived benefits such action might bring to one or other of the land transport modes.

We tend to lose sight of the fact that on occasions such as this we are in the main considering the mainland's more emotive highly visible interstate road transport sector, an area of activity while quite massive in its own right, accounts for only about 1% of the total domestic freight transport task.

Over recent years State Government actions associated with the deregulation of the road transport sector coupled with the release of all but two State rail systems from their common carrier obligations, either in full or part, have on the surface increased the capacity for competition.

In truth, however, these actions have allowed railway management to divest itself of many totally non viable services — so I would suggest that the areas of competition between the land transport modes are a great deal less than many people imagine.

That is not to take for granted that all road transport operators or my railway colleagues would necessarily accept my opinion.

I would suggest, however, that to talk of the need for regulatory protection of rail would be a totally outdated waste of time when you consider that with the exception of Tasmania, protection for other than some bulk materials in some States is no longer afforded the Government owned railway systems and is unlikely to ever be reinstated.

It's a matter of history that in 1968 South Australia deregulated road

One of the most impressive papers was delivered by Mr L. E. Marks, Chairman of the Australian National Railways Commission, and dealt with road-rail issues. Mr Marks plays a very significant role in Australian transport activities and is currently Chairman of the Australian Railways Research and Development Organisation (ARRDO), Chairman of the Railways of Australia Committee (ROA), and Chairman of the Transport Industry Advisory Council (TIAC). He is also a member of the National Petroleum Advisory Council (NPAC), and the National Energy Advisory Council (NEAC). Mr Marks is a member of the Institute of Directors in Australia and a fellow of the Chartered Institute of Transport.

By L. E. Marks,  
Chairman, Australian National



# Subject so well and truly discussed

transport and allowed open competition between the modes. In 1974 New South Wales followed suit. In 1977 Queensland abandoned its transport co-ordination tax and allowed road to compete with rail for most commodities on most routes.

Western Australia has commenced a phased deregulation while its State owned rail system has passed its "smalls" freight traffic into a joint venture company with private enterprise.

Victoria, to all intents and purposes, has picked up the deregulatory findings of the Lonie Report of 1980, and though a recent change of Government has reversed some of the Lonie recommendations, competition between the modes is still alive and kicking.

When one considers the level of deregulation that has taken place within the States it all sounds like good progressive stuff, however, it is worth noting that in his address to the 1982 ARTF Conference, the New South Wales Minister for Transport, Mr Cox, stated that the time had come for the nation to take a hard look at its road freight industry. (Again?)

He went on to ask: "How efficient is the industry really? To what extent are the constraints imposed by section 92 affecting the overall transport task? Is there scope for further rationalisation of traffic between road and rail? Is the industry making an equitable contribution towards its cost to the community?"

During the recent election campaign the new Commonwealth Minister for Transport, Mr Peter Morris, announced that if his party gained power then "there would be an enquiry into road transport".

Regardless of whether there is to be a further enquiry into road transport or whether such action would be commissioned by a State or Commonwealth Government it seems to me that the first requirement will be to get the definitions and priorities in order.

You see, I believe the road transport industry is efficient and both technically and socially sound.

One can't debate it has a current economic problem as do most

Australian industries but as a service arm of industry and commerce it will be there to assist and indeed share in the ultimate and undoubted recovery and prosperity of our nation.

In this regard my definition of road transport is that facet of the industry that measured in tonnes carried performs the lions share of the domestic freight task, that is the short haul and terminal carrier segments.

Now if Governments want to enquire into the long distance and interstate road transport sector then they can get off to a rapid start by brushing down the findings of the most complete transport study of its kind — the 1980 Commission of Enquiry into the New South Wales Road Freight Industry which was headed by my colleague, Mr Gavin McDonell.

They can also extract worthwhile information from the Victorian Government initiated Lonie Report of 1980 and the Commonwealth's Sir David Hay Report.

With so much enquiry already behind us one wonders if in seeking more we aren't contemplating "sawing sawdust".

It's at this point that my cynicism cannot be contained — for have you ever stopped to consider how much of this attention, study and subsequent deregulation has been a result of recommendations from public enquiries or by advice from symposia such as this or even as a result of responsible industry consultation with Government — as against how much has been achieved by the determination and for a limited time unusual unity of the more rebellious affected parties.

The Hughes and Vale Case through due process and Razorback through anarchy, achieved more worthwhile and long overdue changes in deregulation than all of the soundly based arguments posed by industry to Government over a period of years.

I well remember a statement by — Bill Egan — when soon after Razorback, he said:

*"Greendog and his friends achieved more in ten days than the responsible elements of industry had managed to do in ten years."*

The shame of both situations lies in the fact that the signs of unrest were so obvious and yet went unheeded for so long while even today, there is no real machinery in place to recognise and deal with the warnings through a sound and rational long term national transport policy.

Sure a great deal of the current problem is due to the disastrous national drought directly affecting the rural industry and the economy generally.

Add the natural disaster to the rub off effect of a world recession and you have economic trauma — not only for road transport but for all forms of transport — not the least of which is rail.

It seems fairly obvious however that regardless of the present unfortunate circumstances the long distance road industry may be in even more trouble since the avalanche of deregulation than it was before.

The unfortunate part of this exercise is that so many people continue to consider that deregulation is the panacea to Australian transport problems with of course particular emphasis on the so called owner operator segment of the road transport industry.

In some regards and in some areas I wonder whether deregulation as against limited regulation might not be a one way ticket to further chaos.

In considering regulation in the interstate segment I recall that it must be fifteen years since Gough Whitlam said:

*"Constitutionally a Commonwealth Government can regulate and operate interstate transport by road, sea and air."*

*It can regulate interstate rail freight and rates through an Interstate Commission.*

*It can construct and extend railways in a State with the consent of the States; and it can grant financial assistance to the States on any conditions it chooses.*

*Radical improvements in basic transport are only possible if the Commonwealth is interested."*



## IT HAPPENED IN HOBART

In August 1982 the then Federal Shadow Minister for Transport, Peter Morris, in an address to the Adelaide Section of the Chartered Institute of Transport said:

*"Labor will establish the Interstate Commission under legislation that has been on the books since 1975 to develop a National Transport Policy through investigation, consultation, publication and recommendation. The Interstate Commission utilising Labor's 'social audit' concept will be a valuable tool in improving transport efficiency."*

When I was preparing this paper the thought struck me that as the draft had to be in to the organisers by March 1st and there was to be a Federal Election on March 5th — it was going to be interesting at this point where I had to deliver my paper because by then the possibility of our Interstate Commission may have become a reality or once again faded into obscurity.

March 5th behind us we can now assume that there will be an Interstate Commission which, thank goodness, is not to be a mirror image of the American system which in many cases granted a licence for carriers to steal and be inefficient.

The Government's policy indicates that the Commission will not have adjudicatory powers.

It will investigate discriminatory practice, inequalities, inefficiencies and anomalies in interstate transport. It will make recommendations to the Government and formulate by consultation the development of a National Transport Policy.

Now I may be wrong but though I have always supported such a Commission I still question whether it can solve the owner-operator problem and to indicate my still current concern let me quote from an address I gave here in Hobart to an Institute Seminar in November 1979:

*"I have said on many occasions and see no reason to change my stance in*

*this matter, that there should be some form of controlled entry into the road transport sector, particularly on interstate trade. My views seem to be those of most people currently actively engaged in the industry, as evidenced by the fact that the majority of contributors to the New South Wales Inquiry into Road Transport, including owner-operators, fleet owners, trade unions and trade associations, made this very same point.*

*The fact is that there are no restraints of entry into the road transport industry in the Australian States other than, of course, Tasmania, hence we have the problem of fellows being able to enter the industry even though they're to all intents and purposes insolvent before they start. Why can't Australia have a national system similar to that which prevails in Tasmania? With the various States being as for your areas, with those carriers wishing to participate in the intrastate trade being issued with a cart licence equivalent, whilst those wishing to engage in interstate activity would be required to have a carrier licence equivalent or both. I'm well aware that there are people here today who would be shocked by such a proposal and in fact would prefer non-regulated entry here in Tasmania.*

*However, let me suggest that before you seek to change your system you should spend time with those transport people on the mainland from all modes who are so closely affected by the lack of a National Transport Policy, and learn of their frustrations and of the waste such a disjointed scene can and does generate.*

*As a United States Politician once said:*

*"If it ain't broke, don't fix it!"*

*My ideas on restraint of entry aren't harsh, they revolve around knowing that an operator seeking entry understands the basic laws and regulations associated with the business; that he understands something of economics and what servicing his funds really means; that he isn't encouraged, nor even allowed, to start in the industry from a position that could only be described as bankrupt.*

*I've been around this industry quite a while and I haven't seen anybody make the top starting from that far behind par — and there's one thing I'm sure of, it's tougher today than it was thirty odd years ago.*

*Your own conditions of entry, particularly "the suitability and fitness of the applicant to hold a licence", bring to mind the not infrequent situation that has occurred over the years, where a carrier goes broke, skips his obligations and debt and within weeks starts a new business in a new name. Tell me that it's healthy for the industry or the nation to have those sort of people around, but if you can't then don't judge my suggestions too harshly."*

*(End of quote)*

Though in retrospect my suggestions have some technical flaws my opinions haven't changed. Without wishing to place too much emphasis on the desirable rather than the achievable, I would like to go on record on this occasion as saying that I don't believe that the various transport modes are necessarily mutually destructive and perhaps because I'm somewhat of a transport dreamer, I consider they are all supplementary segments of a nation's transport system.

I believe that in a country like Australia, where we are probably as dependant on surface transport for our economic and social well being as any country in the world, we place too much emphasis on whether we should have freeways or railways.

In Australia we need all the modes but with fairly limited resources we have a need to be sure of our transport priorities.

As far back as I care to remember there has been the argument between the road and rail modes as to which, if either, pays its true cost of operation. While I doubt that either mode does pay its true costs, I can't understand why in a world where computers have been programmed to make the calculations necessary to allow man to land on the moon we apparently can't program the box to give answers to this vexed question.

Mr Chairman, in conclusion let me quote the noted Economist, Milton Freedman, who said:

*"The great danger to the consumer is monopoly — either private or government. His most effective protection is free competition."*

I could hardly argue with such a philosophy — other than to add that with Australian Interstate and long distance non bulk cargo movements, oversupply and wasteful duplication of services is not the base from which we should calculate reward.

Too often in our industry the loss leader is also the price leader.





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## letters

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crudes, in conjunction with two railways, one of which would be the planned North-South link, the other involving a new link with Queensland, probably via Birdum and Mt Isa.

As far as I can judge from the antipodes, the idea of a refinery at this point does not seem contrary to common sense. If my information is correct, Australia itself has only limited oil reserves, whereas Indonesia, its next and almost only neighbour, has plenty.

Strategically speaking however any refinery is a vulnerable organ in the body of land it is called upon to nourish. As for the proposed link with Queensland, I feel that such a railway will have to be built anyway, sooner or later.

Probably, the effect of new railways between Darwin and the East and South will be the disclosure of Darwin and eventually the whole North, where it is inhabitable or suited for development. As for the gauge of the envisaged Eastern connection, there can be little doubt that this line will have to be constructed to 3'6" gauge.

However, in order to place the break of gauge with the 4'8½" gauge North-South railway at a point where it will be

least annoying, the terminal point of the line will have to be located at Darwin, not Birdum, a scheme that will necessitate a parallel alignment between Birdum and Darwin.

True, this will not be a cheap solution, but as far as I can see, it will be the only sensible one, given the insoluble gauge situation that has been allowed to develop.

I do not think it would have been wise to use rail salvaged from the ex Maree-Alice line for such a purpose.

Perhaps Mr Wood does not realise that this was largely 50 lb rail — unacceptable today — and that it had lain in the weeds for half a century or more.

I must add that even Mr Wood himself, although he endorses my view that the potential of 3'6" gauge has been chronically misunderstood, fails to grasp the essential point, where he states: 'The only difference (. . .) is 1'2½" and size of equipment'.

The essential point is that the size of the equipment does NOT vary with the width of the track, since the two entities are not basically related. But perhaps my letter was not overly clear on this point. I hope I have read Mr Wood's letter well

and that these comments may be of use to you. Meanwhile I remain,

Yours Truly,  
Jan A. van den Bosch  
Mereveldplein 52,  
3454 CL De Meern  
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# Royal Scotsman took 'John Bull' to America



By Basil Silcove

grades of the Canadian Rockies to a summit level of 5600 ft, scorning the pilot help needed by local engines. Transport has always been an essential link in the development of international friendship and there was no more fitting ambassador than the Royal Scot. Regarded as typical of British railway production, its daily task of linking England with Scotland created for it a much wider interest than could have been achieved with a train operating in only one country. It had a history going back through 70 years of British railway development making it eminently suitable as representative of the nation that gave railways to the world. Sending the train overseas was hailed with approbation on both sides of the Atlantic, particularly as it was the sole British exhibit at the Chicago World Fair.

On the eve of the train's departure, however, the US financial crisis occurred but the promise to make the trip was kept. This was greeted in America as evidence of British confidence in their ability to overcome the depression.

No. 6100 Royal Scot engine 4-6-0 weighing 128 tons — forerunner of 50 Glasgows built in 1927 by the North British Locomotive Company — pulled a representative selection of coaches: third corridor brake, third vestibule, all-electric kitchen, first corridor vestibule, first lounge, third sleeper, first sleeper and first corridor brake.

Canadian steamship "Beaverdale" was chartered and the world's largest floating crane "London Mammoth" loaded the train at Tilbury Docks — the engine and coaches being prepared previously at the LMS railway works at Crewe and Derby.

The locomotive was stored in the hold in three sections. The eight coaches were firmly held on deck, four aft and four forward, and preserved against exposure by a special wax coating. On arrival at Montreal, the Royal Scot was given a press and public ovation and the crew presented to the Governor-General, Canadian Prime Minister and Cabinet.

Before going on show, thousands of curious onlookers lined the track to see it attain a test speed of 75 mph on its initial run on "foreign soil".

Newspapers reported: "Thousands left their beds early to see the spectacle of a British train rushing over Canadian soil" and "Huge crowds thronged wayside stations and cheered as the maroon flier whistled its way past."

On to Ottawa and Toronto with crowds at times so great — forcing the premature closing of the exhibition at Hamilton — that the driver had to slow down to 15 mph lest he run over the more adventurous! When the train crossed from Canada into the US, 10,000 people waited at midnight in pouring rain at Niagara Falls to see it pass.

Reaching New York, 82,770 inspected the Royal Scot to the skirl of bagpipes. Wherever it sped . . . Atlantic City, Baltimore, Pittsburgh, Cincinnati . . . motorcars hooted and factory sirens shrieked a welcome salute.

At Chicago Fair, the millionth visitor was given an oil painting showing side by side the Royal Scot and America's crack express the Burlington.

The Vancouver Sun summed up: "The Royal Scot's visit has explained to Americans and Canadians some idea of Britain's greatness. Viewing it — small, but solid and efficient — is like getting an insight into the genius of that race."



A tour which was an event historic in the annals of world transportation took place 50 years ago when a little slice of Britain was shipped overseas.

The Royal Scot — train with a tradition — toured Canada, USA from May 1 to November 11, 1933 covering under her own steam 11,194 miles of American railways. The powerful West Coast day express has left London Euston daily at 10 am ever since June 1, 1862 bound for Glasgow or Edinburgh.

In an unprecedented tour, opening at Windsor Station, Montreal, the Royal Scot was exhibited at 80 cities from Boston and Washington to Los Angeles and Vancouver and inspected by 3,021,601 people.

Of these more than two million passed through the train in a five-month stay at Chicago Century of Progress Exposition. These impressive figures scarcely credit the romance, pageantry and drama that lay behind the international gesture of an express train complete with crew being sent half way across the globe to be welcomed and fated by millions.

British science, skill and steel — 500 tons of it — were set down among people of the same tongue and ideals as the men, 3000 miles away, who fashioned the masterpiece of modern craftsmanship that was the steam-driven Royal Scot. Taken across America was a truckload of spare parts but not one was used.

Never before had a British train visited the north American Continent, much less toured its cities from Quebec to Missouri, from New England to the Pacific. To conform with American regulations, the Royal Scot was fitted with an electric headlight and warning bell which were later retained on the engine.

For those associated with the tour, every moment was one of pride in the skill of the men who built an engine to stand up to temperatures ranging from 110° to 8°, and of those who drove the eight-coach train up the long spiral



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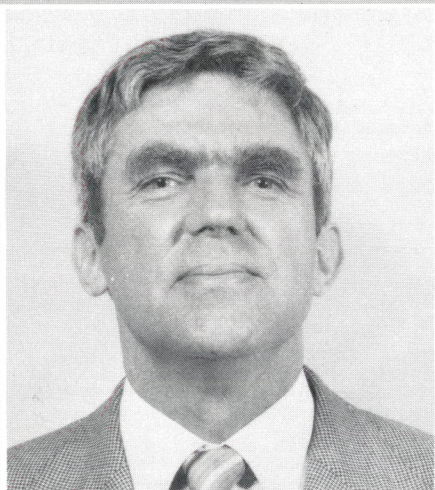
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*Lt. Col. A. R. Howes*

## Research and Australia's Security

Lt. Col. A. R. (Alan) Howes has planned an extensive study programme as part of his Defence Fellowship research for 1983. After visiting Antarctica earlier this year, Col. Howes has now embarked on a study itinerary which covers many countries of the world. "Transport and Australia's Security", the title of the study, will cover the importance of effective joint civil and military land, sea and air transport in a country's defence administration, and in rapid response situations has recently been highlighted by the British use of civil transport resources to supplement their military Task Force in the 1982 Falklands campaign. Col. Howes Defence Fellowship will also examine transport resources essential to Australia's security; government and private sector infrastructure and vehicles provide the means of travel and trade, yet can supplement the limited transport resources of its Defence force. Lt. Col. Howes is a Fellow of the Chartered Institute of Transport, Associate Fellow of the Australian Institute of Management, member of the Australian College of Education, a Life Member of the Royal United Services Institute of Australia and a member of the Rotary Club of Canberra City. His military appointments include Directing Staff member, Australian Staff College 1976-77, Deputy Army commander — Tasmania 1978-79, Staff Officer (Policy) to the Director General Movement and Transport, Department of Defence, Canberra 1980-82. He is married with four teenage sons.

## New Metro Transit Chief for Victoria

An American, Mr Lynne Strouse, is head of Victoria's newly formed Metropolitan Transit Authority. Mr Strouse, 41, was Managing Director of Hertz Australia before accepting the position as Chief Executive of the MTA. He came to Australia in 1980 after almost 20 years with the Hertz organisation in the United States, Europe and Asia.

Mr Strouse now is responsible for all metropolitan transport in Melbourne — trains, trams, buses, the underground rail loop and contract with private bus companies.

Facilities taken over by the MTA are VicRail, the Melbourne and Metropolitan Tramways Board and the Melbourne Underground Rail Loop Authority. MTA also has charge of the metropolitan functions of the Railway Construction and Property Board and the Transport Regulation Board. The MTA is one of four Authorities created by the Victorian government to absorb function of eight existing bodies. Others are the State Transport Authority (STA), the Road Construction Authority (RCA) and the Road Traffic Authority (RTA).

Accepting his appointment, Mr Strouse said: "A commercial approach in the general management sense is the biggest thing I can offer".

Minister of Transport, Mr Steve Crabb, said Mr Strouse knows the challenge of the market place and has a track record that will be welcomed to the Ministry. Mr Strouse said upon taking office that he hoped to "manage by example". He saw his job as threefold — to ensure there was a happy blend of inside and outside management; to permit schedules and a common direction to function; and to market the facility.



*Mr Keith Fitzmaurice*

## New Chief for Victoria's STA

Mr Keith Fitzmaurice is Chief Executive of Victoria's State Transport Authority — the country arm of that state's new transport system.

Mr Fitzmaurice, 51, was Group Managing Director of Kemtron Ltd. from 1977 before taking up his new post.

He was with that company for 15 years and earlier had held positions of Corporate Secretary, Chief Executive Finance and Finance Director.

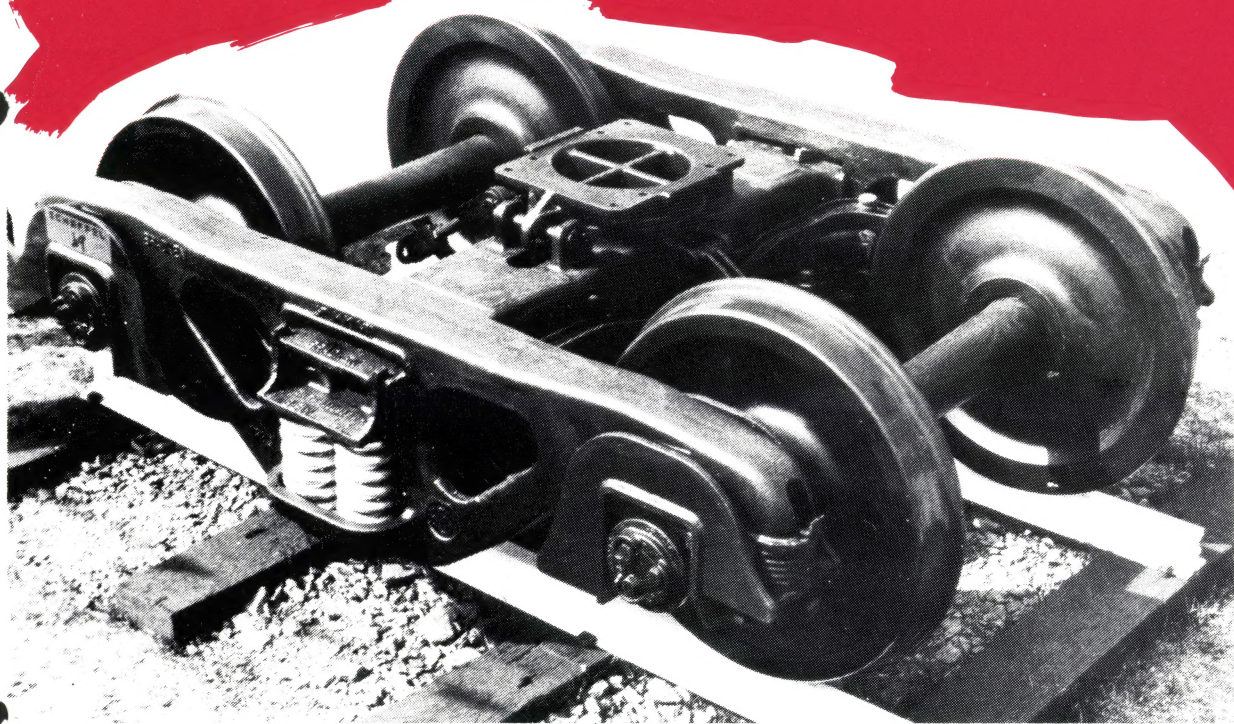
As STA head he is responsible for all country passenger and freight operations and control of country bus operations. The charter of the STA envisages provision of transport services within Victoria in other non-rail modes such as road, air and warehousing facilities.

Minister of Transport, Mr Steve Crabb, announcing Mr Fitzmaurice's appointment, said he would be part of a formidable team in the new transport portfolio. The revamped portfolio embraces the STA, the Metropolitan Transit Authority (MTA), the Road Construction Authority (RCA) and the Road Traffic Authority (RTA). Mr Crabb said Ministry Task Forces had done considerable ground work in creating the new Authorities and it would be the responsibility of the Chief Executive and senior executives within the Ministry to see that a smooth changeover from the former departments and boards was effected. Mr Fitzmaurice said he hoped to create out of that part of VicRail designated STA an organisation respected for its professionalism and achievements.



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